

EXHIBIT 43

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

SECURITIES AND EXCHANGE COMMISSION,

Plaintiff,

-v-

RIO TINTO PLC, RIO TINTO LIMITED,
THOMAS ALBANESE and GUY ROBERT
ELLIOTT,

Defendants.

No. 1:17-cv-7994

EXPERT REPORT OF GLENN HUBBARD

February 21, 2020

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I. INTRODUCTION

A. Qualifications

1. My name is Glenn Hubbard. I am the Dean Emeritus of the Graduate School of Business at Columbia University, where I hold the Russell L. Carson Professorship in Finance and Economics. In addition, I am a Professor of Economics in the Department of Economics of the Faculty of Arts and Sciences. At the National Bureau of Economic Research, I am a Research Associate in programs on corporate finance, public economics, industrial organization, monetary economics, and economic fluctuations and growth. I am also a visiting scholar at the American Enterprise Institute in programs on tax policy and financial markets. Since 2006, I have been the Co-chair of the Committee on Capital Markets Regulation, a nonpartisan organization offering analyses and policy advice on financial regulation. Prior to joining the Columbia faculty as Professor of Economics and Finance in 1988, I taught in the Department of Economics at Northwestern University. I have also served as Visiting Professor of Business Administration at Harvard Business School, John M. Olin Visiting Professor at the University of Chicago, Visiting Professor and Research Fellow of the Energy and Environmental Policy Center at Harvard University's John F. Kennedy School of Government, and John M. Olin Fellow at the National Bureau of Economic Research. I hold A.M. and Ph.D. degrees in Economics from Harvard University, and B.A. and B.S. degrees in Economics from the University of Central Florida, *summa cum laude*.
2. My professional work has centered on problems in corporate finance, public economics, industrial organization, monetary economics, and natural resource economics. I have authored more than 100 publications, edited a number of books, and authored leading textbooks on money and financial markets, macroeconomics, and principles of economics. As part of my research, I have conducted peer reviewed event studies.¹ I have also conducted event studies that look at, among other things, the issue of economic materiality in several litigation matters. My testimony and opinions involving event study analyses have been accepted by courts.²

¹ See, for example, Hubbard, R.G. and D. Palia, "Benefits of Control, Managerial Ownership, and the Stock Returns of Acquiring Firms," *RAND Journal of Economics*, 26(4), Winter 1995, 782-792; Hubbard, R.G. and D. Palia, "A Reexamination of the Conglomerate Merger Wave in the 1960s: An Internal Capital Markets View," *Journal of Finance*, 54(3), June 1999, 1131-1152.

² See, for example, *In re: Kosmos Energy Ltd. Securities Litigation*, 2014 U.S. Dist. LEXIS 36365 (N.D. Tex., March 19, 2014); *Parnes v. Bally Entm't Corp.*, 2001 Del. Ch. LEXIS 34 (Del. Ch. 2001); *In re Appraisal of Jarden Corp.*, Case No. 12456-VCS, 2019 Del. Ch. LEXIS 271 (Del. Ch. July 29, 2019); *United States v. Schiff*, 602 F. 3d 152 (3d Cir. 2010).

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3. I have been an advisor or consultant to the Board of Governors of the Federal Reserve System, Congressional Budget Office, Federal Reserve Bank of New York, Internal Revenue Service, International Trade Commission, National Science Foundation, U.S. Department of Energy, and U.S. Department of the Treasury. From 1991 to 1993, I served as Deputy Assistant Secretary (Tax Analysis) of the U.S. Department of the Treasury, where I was responsible for economic analysis of tax policy, the administration's revenue estimates, and health care policy issues. From 2001 to 2003, I served as Chairman of the President's Council of Economic Advisers. Over that time period, I also served as Chair of the Economic Policy Committee for the Organization for Economic Cooperation and Development in Paris. A copy of my *curriculum vitae* is attached as **Appendix A**.

B. Scope of Assignment

4. I have been retained by counsel for Rio Tinto plc and Rio Tinto Limited (collectively, "Rio Tinto") as well as Rio Tinto's former Chief Executive Officer ("CEO"), Thomas Albanese ("Mr. Albanese") and its former Chief Financial Officer ("CFO"), Guy Robert Elliott ("Mr. Elliott") (the "Individual Defendants" and collectively with Rio Tinto, the "Defendants"). I have been asked to evaluate the opinions and analyses offered by Plaintiff's expert Dr. Albert Metz in his expert report ("Metz Report") and to independently assess the materiality of the impairment of Rio Tinto Coal Mozambique ("RTCM") and certain statements made by Mr. Albanese in late 2012.³ This includes assessing (1) whether the market viewed Rio Tinto's acquisition of Riversdale Mining Limited ("Riversdale"), renamed RTCM post-acquisition,⁴ as accretive; (2) whether Rio Tinto's disclosure on January 17, 2013 that it expected to impair the value of RTCM in its year-end 2012 results by approximately \$3 billion (the "RTCM Impairment Disclosure") impacted the price of its American Depositary Receipts ("ADRs"), prices of its bonds, or its credit ratings; (3) whether a hypothetical announced impairment of RTCM's assets ("Alternative RTCM Impairment Disclosure") as of its half-year ("HY") 2012 financial filings on August 8, 2012 ("HY 2012 Earnings Release") would have impacted its credit ratings, ADR or bond prices, or its earnings; and (4) whether allegedly false and misleading statements made by Mr. Albanese on August 8, 2012 and November 29, 2012 impacted Rio Tinto's ADR price.

³ Expert Report of Albert Metz, Ph.D, December 20, 2019.

⁴ Rio Tinto, 2011 Annual Report, March 16, 2012 ("Rio Tinto 2011 Annual Report"), p. 26.

C. Report Preparation

5. My billing rate for time spent on this matter is \$1,500 per hour. This compensation is not contingent upon the nature of my findings or on the outcome of this litigation.
6. Employees of Analysis Group, Inc., an economics research and consulting firm, working under my direction and supervision, have assisted me in this assignment at standard hourly rates charged by that firm. Consistent with industry practice, I also receive compensation based on the professional fees earned by Analysis Group in conjunction with their support for this report. This compensation is not contingent upon the nature of my findings or on the outcome of this litigation.
7. The materials that I and those working under my direction have relied upon in reaching my conclusions are listed in **Appendix B** of this report. My work on this matter is ongoing, and I may review additional materials or conduct further analysis. I reserve the right to update, refine, or revise my opinions.

II. SUMMARY OF ALLEGATIONS

8. The Securities and Exchange Commission (“SEC” or “Plaintiff”) alleges that Defendants fraudulently: “conceal[ed] the rapid and dramatic decline in value”⁵ of a coal mining operation in Mozambique that Rio Tinto acquired through its purchase of Riversdale, which it completed in August 2011.
9. Following the Court’s ruling on Defendant’s motion to dismiss on March 18, 2019,⁶ I understand the following allegations relevant to my assignment remain in the case:
 - The over \$3 billion valuation of RTCM included in Rio Tinto’s HY 2012 report filed on August 8, 2012 and maintained until the January 17, 2013 RTCM Impairment Disclosure,⁷ was allegedly false and misleading. In particular the SEC alleges: “that the Individual Defendants possessed material information about severe adverse developments at RTCM, but that they did not share this information at Rio Tinto’s Audit Committee meetings or otherwise, and thus caused the HY 2012 Report to contain a materially false valuation of

⁵ Complaint, *Securities and Exchange Commission v Rio Tinto plc, Rio Tinto Limited, Thomas Albanese, and Guy Robert Elliott*, United States District Court, Southern District of New York, Case No. 1:17-cv-7994, October 17, 2017 (“Complaint”), ¶ 1.

⁶ Order, *Securities and Exchange Commission v Rio Tinto plc, Rio Tinto Limited, Thomas Albanese, and Guy Robert Elliott*, United States District Court, Southern District of New York, Case No. 1:17-cv-7994, March 18, 2019 (“Motion to Dismiss Order”).

⁷ Motion to Dismiss Order, pp. 10, 12.

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RTCM.”⁸ In other words, the SEC alleges that the value of RTCM should have been impaired at HY 2012, rather than at year-end 2012.

- The SEC further alleges that because the HY 2012 report was included in the August 2012 bond offering documents, Rio Tinto’s August 2012 bond offering documents were materially false and misleading.⁹
- Mr. Albanese made allegedly false and misleading statements during Rio Tinto’s presentation of HY results on August 8, 2012 (“August 2012 Albanese Statements”), stating that: “the regional area in the Moatize Basin was ‘more prospective’ than he would have said a year earlier, that RTCM probably had ‘more potential in total as [it went] forward,’ and that the Moatize Basin was truly a world-class basin coal deposit.”¹⁰
- Mr. Albanese made an allegedly false and misleading statement at Rio Tinto’s November 29, 2012 investor seminar (“November 2012 Albanese Statement”), stating that: “the Moatize Basin was a long-term opportunity with the potential to grow beyond 25 million tons of coal per year.”¹¹

III. SUMMARY OF DR. METZ’S OPINIONS

10. In his report, Dr. Metz was asked to:

- a. “[E]xamine and opine on whether the market for Rio Tinto’s American Depository Receipts (ADRs) was efficient prior to the time Rio Tinto acquired the Riversdale mining assets through the day it wrote off most of the Riversdale acquisition, that is, from at least December 2010 through January 17, 2013 (the ‘period of interest’);
- b. [E]xamine and opine on the impact and importance of new information released to the market on the price of Rio Tinto’s U.S. exchange-traded ADRs on various days throughout this period of interest, including the day of acquisition and the day Rio Tinto disclosed the write-off;
- c. [D]escribe reasons why the ADR price movement on January 17, 2013 may have been affected by other news in addition to the impairment announcement; and
- d. [P]rovide general background on bonds, the bond market, and Rio Tinto’s issuance of certain bonds during the period of interest.”¹²

11. Dr. Metz reaches the following conclusions in his expert report:

⁸ Motion to Dismiss Order, p. 47.

⁹ Complaint, ¶ 6; Motion to Dismiss Order, pp. 37-39.

¹⁰ Motion to Dismiss Order, p. 24.

¹¹ Motion to Dismiss Order, pp. 23, 25.

¹² Metz Report, ¶ 4.

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- a. “[T]he market for Rio Tinto ADRs was efficient during the period of interest;”¹³
- b. “After analyzing the market’s reaction to Rio Tinto’s acquisition of the Riversdale mining assets on April 8, 2011, I conclude that this acquisition was accretive;”¹⁴
- c. “The market reacted negatively, but not significantly, to the \$3 billion Riversdale write-down and other news announced on January 17, 2013. The news of the write-down was released simultaneously with news of additional write-downs in other assets and a change in leadership of Rio Tinto. The academic literature finds that both the removal of an underperforming CEO as well as the hiring of a capable CEO can be associated with positive abnormal returns;”¹⁵
- d. The lack of reaction from the equity market: “[u]pon hearing the official announcement from the Company that the mine was nearly worthless... is not unexpected since the market learned of a change in senior management of the Company at the same time it learned of the write-down, and this change was very well received by analysts. It is also possible that some of the weaknesses of the Riversdale mining assets were already known to the market by the time of the official write-down.”¹⁶

IV. SUMMARY OF OPINIONS

12. As a result of my review and analysis, I have reached the following conclusions:

- a. The market did not perceive the Riversdale acquisition to be accretive to Rio Tinto, contrary to Dr. Metz’s opinion.
 - i. Following Rio Tinto’s announcement on March 29, 2011 that the company had dropped its condition that it would only acquire Riversdale shares if it could acquire at least a 50 percent stake and would increase its bid price to A\$16.50 if it achieved a 47 percent ownership share by April 6, 2011, Rio Tinto increased its stake in Riversdale to 49.49 percent by April 6, 2011 and nominated three directors to Riversdale’s board on April 7, 2011. These events increased market participants’ optimism regarding Rio Tinto’s chances of achieving control of Riversdale such that by April 7, 2011 market participants were making comments such as: (1) Rio Tinto is “expected to acquire” control; (2) Rio Tinto “should soon gain a majority stake;” and (3) “it would now appear certain it will obtain majority control.” Thus, Rio Tinto’s acquisition of control of Riversdale on April 8, 2011 was not a surprise, contrary to Dr. Metz’s opinion.
 - ii. Despite that the announcements on March 29, 2011, April 6, 2011, and April 7, 2011 resolved much of the uncertainty around whether Rio Tinto would gain control of Riversdale, the abnormal returns on Rio Tinto’s ADR on those dates, both individually and jointly, are not statistically significantly different from zero based on Dr. Metz’s event study analysis, implying that there is no indication that

¹³ Metz Report, ¶ 15.

¹⁴ Metz Report, ¶ 16.

¹⁵ Metz Report, ¶ 17.

¹⁶ Metz Report, ¶ 18.

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Rio Tinto's ADR price was positively affected by these announcements. The lack of statistically significant abnormal returns on these dates refutes Dr. Metz's conclusion that the market viewed Rio Tinto's acquisition of control of Riversdale as accretive.

- iii. Using his event study analysis, Dr. Metz finds that Rio Tinto's ADR had a positive abnormal return of 3.0 percent on April 8, 2011 that was statistically significantly different from zero at the 95 percent confidence level. However, Dr. Metz's finding of statistical significance on that day is driven by his use of an inappropriate industry index that does not adequately control for industry factors affecting Rio Tinto, *e.g.*, commodity price changes. After using alternative industry indices composed of companies whose businesses are more similar to Rio Tinto's and therefore better reflect industry factors affecting Rio Tinto, I find that the abnormal return on April 8, 2011 was *not* statistically significantly different from zero at the 95 percent confidence level. Therefore, I conclude that Rio Tinto's acquisition of control of Riversdale on April 8, 2011 did not cause the ADR price movement that day and that the market did not view Rio Tinto's acquisition of control of Riversdale on April 8, 2011 as accretive, even if one incorrectly assumed the market was surprised by the April 8, 2011 announcement, as Dr. Metz did.
- iv. Dr. Metz's conclusion that the abnormal return he calculates for April 8, 2011 was in "reaction to the news that Rio Tinto had finally succeeded in acquiring control of Riversdale"¹⁷ defies basic principles of economics and valuation. Assuming that the acquisition of control on April 8, 2011 was a complete surprise, an assumption that I find to be false as I previously described, Dr. Metz's abnormal return on April 8, 2011 of 3.0 percent implies that the value of control of Riversdale to Rio Tinto was approximately \$4.2 billion, which would mean that the value of Rio Tinto's investment tripled by simply gaining control. There are no valuation principles to support the valuation of control implied by Dr. Metz's analysis. In light of the commentary from market participants on April 7, 2011 (one day prior to April 8, 2011) that "it would now appear certain [Rio Tinto] will obtain majority control" (*i.e.*, it was not a complete surprise), I find that Dr. Metz's abnormal return implies that the total value of control of Riversdale to Rio Tinto could be on the order of approximately \$42.3 billion, more than 20 times the amount Rio Tinto had committed to spend to acquire its controlling interest, another absurd result inconsistent with valuation principles.
- b. The RTCM Impairment Disclosure did not have a measurable negative impact on Rio Tinto's ADR price nor did the contemporaneous management change announcement on January 17, 2013 have a measurable positive impact on Rio Tinto's ADR price. Dr. Metz's conclusions to the contrary are speculative and unreliable. Based on these findings, I conclude that the RTCM Impairment Disclosure did not affect Rio Tinto's market value.
 - i. On January 17, 2013, Rio Tinto disclosed the \$3 billion impairment of RTCM as well as an \$11 billion impairment of its aluminium assets and changes to its senior management. The abnormal return on Rio Tinto's ADRs on January 17, 2013 following these disclosures was negative but not statistically significantly different from zero. This result holds using both of the industry indices I propose and is

¹⁷ Metz Report, ¶ 61.

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consistent with Dr. Metz's findings. Based on this result, as well as evidence from company disclosures, news reports, analysts' reports, and academic studies, I conclude that the RTCM Impairment Disclosure did not have a measurable negative impact on Rio Tinto's ADR price. I further find that Dr. Metz's conclusion that the RTCM Impairment Disclosure "could well have put significant negative pressure on the ADR price"¹⁸ is little more than speculation and is based on citations to a small subset of the available information, which makes his conclusion unreliable.

- (1) Although Dr. Metz acknowledges that "it is [] possible that some of the weaknesses of the Riversdale mining assets were already known to the market by the time of the official write-down"¹⁹ and that "this would tend to limit the degree of price reaction on January 17, 2013,"²⁰ he failed to analyze whether this was the case. My analysis of hundreds of available company disclosures, news reports, and analysts' reports reveals that, prior to the August 2012 HY 2012 Earnings Release and the January 2013 RTCM Impairment Disclosure, the risks associated with RTCM were publicly available and were acknowledged by market participants. Further, I find that prior to the HY 2012 Earnings Release, multiple analysts were of the view that the market placed little value on RTCM because of the risks associated with its development.
- (2) Through a review of analysts' reports from 20 analysts that commented on the RTCM Impairment Disclosure, I find that the disclosure did not negatively affect most analysts' opinions of or target prices for Rio Tinto, likely in part because analysts acknowledged the risks associated with RTCM. Reviewed collectively, these reports demonstrate that Dr. Metz's selective quotations from only six analysts' reports overstate the extent to which: "analysts reacted negatively to the Riversdale write-off."²¹
- (3) The lack of a negative reaction to the RTCM Impairment Disclosure is also consistent with academic research related to equity analysts' evaluation of reported earnings, which Dr. Metz fails to acknowledge. This research demonstrates that "Street" earnings, which exclude one-time charges such as impairments, are the measure of earnings relied on by equity analysts and investors and that are a primary determinant of stock prices. As Rio Tinto's "Street" earnings were unaffected by the impairment of RTCM, this research is consistent with my finding that Rio Tinto's ADR price was unaffected by the RTCM impairment.

¹⁸ Metz Report, ¶ 86.

¹⁹ Metz Report, ¶ 18.

²⁰ Metz Report, ¶ 18.

²¹ Metz Report, § VIII.A.

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- ii. Dr. Metz's conclusion that the change in Rio Tinto's management "could well have put significant positive pressure on the ADR price"²² is little more than speculation and based on only a subset of the available information, making it unreliable.
 - (1) The majority of analysts' reactions to the management changes announced on January 17, 2013 was neutral. In particular, I find that analysts' reports from 12 of the 20 analysts that commented on the management change contained a neutral reaction to the change. The remaining analysts were typically measured in their enthusiasm and expected management to continue to follow or to better implement existing strategies rather than embark on a new path.
 - (2) This finding is consistent with academic research, which finds that companies' stock prices are not typically affected by an announcement that a senior executive has been forced out and replaced by an internal appointee. The rationale for this result provided in these studies is that internal appointees are more likely to maintain the status quo. Dr. Metz cites many of these same studies, but fails to identify the results that are applicable to Rio Tinto's case, leading him to an erroneous conclusion that the management change caused an increase in the ADR price that offset a purported decrease in the ADR price due to the RTCM impairment.
- c. The RTCM impairment had no material effect on Rio Tinto's bond prices and credit ratings, which Dr. Metz fails to analyze. While Dr. Metz provides "a basic, summary primer on the structure of the bond market and the impact that risk (or perceptions of risk) can have on a company's cost of financing,"²³ he provides no analysis of the effects of the RTCM Impairment Disclosure on Rio Tinto's bond prices or its credit ratings.
 - i. Using an event study of Rio Tinto's outstanding bonds, I find that Rio Tinto's bond securities did not experience a statistically significant price decline following the RTCM Impairment Disclosure on January 17, 2013.
 - ii. Following the RTCM Impairment Disclosure, none of the three major credit ratings agencies (Moody's, Standard & Poor's ("S&P"), and Fitch) changed the credit rating they assigned to Rio Tinto, and my review of contemporaneous information from the ratings agencies confirms that the impairment did not affect Rio Tinto's credit ratings.
- d. An Alternative RTCM Impairment at Rio Tinto's HY 2012 Earnings Release on August 8, 2012 would not have had an impact on Rio Tinto's credit ratings, August 2012 bond offering, ADR price, or Underlying Earnings (as compared to analysts' consensus estimates).
- e. The Albanese Statements did not have a positive impact on Rio Tinto's ADR price:
 - i. There is no conclusive evidence whether Rio Tinto's ADR price experienced a positive abnormal return that was statistically significantly different from zero at

²² Metz Report, ¶ 86.

²³ Metz Report, § IX, ¶ 116.

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the five-percent level following the HY 2012 Earnings Release on August 8, 2012. Regardless, I find that any positive movement in Rio Tinto's ADR price was unrelated to the August 2012 Albanese Statements. This conclusion is supported by the fact that the large majority of equity analysts reacted to the earnings release without commenting on or noting the August 2012 Albanese Statements, which demonstrates that the market was focused on other confounding information about Rio Tinto released on August 8, 2012, not the Albanese Statements.

- ii. Although I find a statistically significant abnormal return on Rio Tinto's ADR price following an investor seminar held on November 29, 2012 ("November 2012 Investor Seminar"), I conclude that the positive movement in Rio Tinto's ADR price was unrelated to the November 2012 Albanese Statement. This conclusion is supported by the positive responses of equity analysts to information released at the investor seminar that were unrelated to the November 2012 Albanese Statement. In particular, the majority of equity analysts focused on the surprise announcement of a \$5 billion cost cutting initiative and an increased emphasis on returning cash to shareholders unless new projects can show a superior return. In addition, no analysts mentioned the November 2012 Albanese Statement in their reports.

- 13. In the remainder of this report, I set forth my findings in more detail.

V. BACKGROUND

A. Rio Tinto's Business Model and Strategy

1. Rio Tinto's Corporate Structure and Securities

- 14. Rio Tinto is a leading international mining group that focuses on finding, mining, and processing mineral resources.²⁴ At year-end 2012, the company's major products included bauxite, aluminium, copper, gold, silver, diamonds, salt, titanium oxide, coal, uranium, and iron ore.²⁵ At this time, Rio Tinto was organized into five product groups: (1) Aluminium, (2) Copper, (3) Diamonds & Minerals, (4) Energy, and (5) Iron Ore.²⁶ The Aluminium product group was comprised of bauxite mines, alumina refineries, and aluminium smelters.²⁷ The Copper product group operated some of the world's largest copper mines and was among the world's largest producers of copper, gold, and molybdenum.²⁸ Rio Tinto's Diamonds & Minerals product group included mining, refining, and

²⁴ Rio Tinto, "About," available at <<https://www.riotinto.com/about>>; Rio Tinto, 2012 Annual Report, March 15, 2013 ("Rio Tinto 2012 Annual Report"), p. 2.

²⁵ Rio Tinto 2012 Annual Report, pp. 2-3.

²⁶ Rio Tinto 2012 Annual Report, pp. 2-3.

²⁷ Rio Tinto 2012 Annual Report, p. 2.

²⁸ Rio Tinto 2012 Annual Report, p. 2.

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marketing across four sectors: Rio Tinto Diamonds, Rio Tinto Minerals, Dampier Salt, and Rio Tinto Iron & Titanium.²⁹ The Energy product group was a leading supplier of thermal and coking coal as well as one of the world's largest uranium producers. The Energy group's operations, exploration, and development projects were located in Australia, southern Africa, and Canada.³⁰ RTCM was included in this group. The Iron Ore product group concentrated on iron ore mines operating in Australia and Canada. At year-end 2012, Rio Tinto was the world's second-largest producer of iron ore.³¹ **Exhibit 1** summarizes Rio Tinto's revenue and "Underlying Earnings"³² by product group for 2009 to 2012.

15. The four product groups described above were supported by the Business Support & Operations ("BS&O") and Technology & Innovation ("T&I") groups. The BS&O group's goal was to create value for Rio Tinto by discovering and acquiring Tier 1 resources, among other things.³³ The T&I group sought to maximize shareholder value by providing technical insights into operational improvements, technical assurance, project delivery, and innovation. The goal of T&I was to create sustainable value by changing the way Rio Tinto operated.³⁴
16. Rio Tinto operates under a dual listed companies ("DLC") structure. This DLC structure consists of Rio Tinto plc, registered in England and Wales, and Rio Tinto Limited, registered in Australia. The DLC structure is designed so that shareholders of either listing are in substantially the same position as if they held shares in a single entity owning all the assets of Rio Tinto. Rio Tinto plc and Rio Tinto Limited are managed together, with the same Board of Directors for each company.³⁵

²⁹ Rio Tinto 2012 Annual Report, p. 3.

³⁰ Rio Tinto 2012 Annual Report, p. 3.

³¹ Rio Tinto 2012 Annual Report, p. 3.

³² Rio Tinto reports a pro forma measure of earnings, "Underlying Earnings," which it calls: "a key financial performance indicator which management uses internally to assess performance." *See* Rio Tinto 2012 Annual Report, p. (i). The firm calculates Underlying Earnings by excluding the following items from net earnings: impairment charges and reversals, the profits less losses on acquisitions or disposal of interests in businesses, profits after tax from discontinued operations, exchange and derivative gains and losses, and any other credits or charges that require exclusion to provide additional insight into the underlying business performance of each product group. *See* Rio Tinto 2012 Annual Report, p. 162.

³³ Rio Tinto 2012 Annual Report, p. 32.

³⁴ Rio Tinto 2012 Annual Report, p. 33.

³⁵ Rio Tinto, "Dual Listed Companies Structure," available at <<https://www.riotinto.com/investors/dlc-structure-4942.aspx>>.

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17. Shares of Rio Tinto Limited are listed on the Australian Securities Exchange (“ASX”), while shares of Rio Tinto plc trade on the London Stock Exchange. Rio Tinto plc also has ADRs³⁶ listed on the New York Stock Exchange. Each ADR represents one ordinary share of Rio Tinto plc.
18. Rio Tinto had 25 U.S. dollar-denominated bond issuances outstanding as of December 31, 2012. The most recent issuances were made in August 2012, totaling \$3.0 billion, and March 2012, totaling \$2.5 billion.³⁷ **Exhibit 2** summarizes Rio Tinto’s bonds outstanding at year-end 2012, including the issuance amounts, issuance dates, maturity dates, Moody’s and S&P bond ratings, and coupon rates.

B. Rio Tinto’s Purchase of Riversdale / RTCM

19. RTCM, whose assets are the subject of this matter, was formed following Rio Tinto’s purchase of Riversdale. At the time of the acquisition, Riversdale was a publicly traded mineral exploration and production company, listed on the ASX, with operations in Mozambique and South Africa.³⁸ Rio Tinto first announced its intent to acquire Riversdale in a company press release on December 23, 2010.³⁹ The release stated that the two companies entered into a Bid Implementation Agreement, and Rio Tinto’s all-cash offer price of A\$16.00 per share valued Riversdale at approximately A\$3.9 billion.⁴⁰ The offer was to be financed through Rio Tinto’s existing cash reserves and credit facilities and was subject to a number of conditions including: “Rio Tinto acquiring a relevant interest in excess of 50 per cent in Riversdale” by February 18, 2011; that is, Rio Tinto would only

³⁶ The stocks of most foreign companies that trade in the United States are traded as ADRs. Each ADR represents ownership in the foreign stock. The price of the ADR corresponds to the price of the stock in its home market, adjusted to the ratio of ADRs to foreign company shares. *See* United States Securities and Exchange Commission, “Fast Answers: American Depositary Receipts,” available at <<https://www.sec.gov/fast-answers/answersadrshmtm.html>>.

³⁷ Unless otherwise indicated, I show dollar amounts in U.S. dollars.

³⁸ Riversdale Mining, 2010 Annual Report, August 23, 2010, pp. 4-9, 18.

³⁹ Rio Tinto Media Release, *Recommended A\$16 per share cash offer by Rio Tinto for Riversdale*, December 23, 2010, p. 1. Prior to the announcement, a news report disclosed discussions between Rio Tinto and Riversdale regarding Rio Tinto potentially acquiring Riversdale, with an initial bid around A\$15 per share. Riversdale later confirmed that talks were underway in a press release. *See* “Rio Tinto in talks to buy Riversdale-paper,” *Reuters*, December 5, 2010; “Rio Tinto in £2 bn African mining bid,” *The Sunday Telegraph*, December 5, 2010; Riversdale Media Release, December 6, 2010.

⁴⁰ Rio Tinto Media Release, *Recommended A\$16 per share cash offer by Rio Tinto for Riversdale*, December 23, 2010, p. 1.

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purchase shares of Riversdale if it could obtain at least 50 percent of Riversdale's shares by February 18, 2011.⁴¹

20. Between February 10, 2011 and March 21, 2011, Rio Tinto made several adjustments to its bid in an attempt to gain a majority interest, and thus control, of Riversdale, including extending the offer period and dropping some of the conditions.⁴² Then, on March 29, 2011 Rio Tinto declared its offer unconditional, removing the last remaining condition that it obtain at least a 50 percent interest in Riversdale in order to proceed with the purchase, and agreed to pay A\$16.50 per share if it could obtain more than a 47 percent interest by April 6, 2011.⁴³ On April 6, 2011, Rio Tinto announced that it had obtained a 49.49 percent interest in Riversdale, thereby triggering the increase in its offer price to A\$16.50.⁴⁴ On April 7, 2011, Riversdale announced that: (1) it had appointed three directors nominated by Rio Tinto to its board; (2) the Riversdale Board (including a Tata Steel representative) unanimously recommended Riversdale shareholders to accept the Rio Tinto offer "in the absence of a superior proposal;" and (3) the Riversdale's Chairman of the Board would resign at the earlier of Rio Tinto gaining a 50 percent interest or the offer closing.⁴⁵ On April 8, 2011, Rio Tinto announced it had acquired a majority interest in Riversdale and assumed control of the company.⁴⁶ Rio Tinto made cash payments of \$2.191 billion to acquire this controlling 52.6 percent ownership interest.⁴⁷
21. From there, Rio Tinto continued to acquire Riversdale's remaining outstanding shares in an effort to gain full ownership. Between April 8, 2011 and August 1, 2011, Rio Tinto acquired the remaining 47.4 percent of Riversdale shares paying \$1.98 billion.⁴⁸ Taking into account the \$478

⁴¹ Rio Tinto Media Release, *Recommended A\$16 per share cash offer by Rio Tinto for Riversdale*, December 23, 2010, pp. 1-2; Rio Tinto Media Release, *Rio Tinto's offer for Riversdale opens*, January 11, 2011, p. 1.

⁴² Rio Tinto Media Release, *Rio Tinto's bid for Riversdale extended by 14 days to 4 March 2011 Institutional Acceptance Facility Established*, February 10, 2011; Rio Tinto Media Release, *Rio Tinto's bid for Riversdale extended by 14 days to 18 March 2011*, February 24, 2011; Rio Tinto Media Release, *Improvements to Rio Tinto's bid for Riversdale*, March 10, 2011; Rio Tinto Media Release, *Rio Tinto extends Riversdale offer by three trading days*, March 21, 2011.

⁴³ Rio Tinto Media Release, *Rio Tinto bid for Riversdale declared unconditional*, March 29, 2011.

⁴⁴ Rio Tinto Media Release, *Important update in Rio Tinto bid for Riversdale*, April 6, 2011.

⁴⁵ Riversdale Media Release, April 7, 2011.

⁴⁶ Rio Tinto Media Release, *Rio Tinto assumes control of Riversdale Mining Limited*, April 8, 2011.

⁴⁷ Rio Tinto 2011 Annual Report, p. 190.

⁴⁸ Rio Tinto 2011 Annual Report, p. 190.

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million cash received in acquiring Riversdale, Rio Tinto paid a net total of \$3.69 billion to acquire the company.⁴⁹ Riversdale's stock was delisted from the ASX on July 7, 2011, and it was subsequently renamed RTCM.⁵⁰

22. At the time of the acquisition of Riversdale, Rio Tinto announced that the acquisition was: "in line with Rio Tinto's growth strategy of investing in, developing, and operating, large, long term, cost-competitive mines, and provides Rio Tinto with one of the world's most promising tier one coking coal developments."⁵¹ RTCM's assets consisted of three exploration and early-stage coal development projects in Mozambique and one working mine in South Africa.⁵² The coal development projects, located contiguously in Mozambique's Moatize and Tete provinces, included the Benga Project (65 percent owned by RTCM, 35 percent owned by Tata Steel Limited⁵³), the Zambeze Project (100 percent owned by RTCM), and the Tete East Project (100 percent owned by RTCM).⁵⁴ Rio Tinto expected the projects to produce a mix of coking and thermal coal.⁵⁵ Production from the first phase of Benga was expected by the end of 2011, ramping up to phase one full production of 1.6 million tonnes per annum ("Mtpa") of coking coal 0.8 Mtpa of thermal coal by the end of 2012 with further expansion plans underway.⁵⁶ In addition to Benga,

⁴⁹ \$3.69 billion = \$2.191 billion + \$1.98 billion - \$478 million. See Rio Tinto 2011 Annual Report, p. 190.

⁵⁰ Rio Tinto Media Release, *Rio Tinto announces record first half earnings*, August 4, 2011, p. 40.

⁵¹ Rio Tinto Media Release, *Rio Tinto announces record first half earnings*, August 4, 2011, p. 40.

⁵² Rio Tinto Media Release, *Rio Tinto announces record first half earnings*, August 4, 2011, p. 40; Interim 2011 Rio Tinto plc Earnings Presentation Transcript, August 4, 2011, Thomson Reuters, pp. 2, 6, 18; Rio Tinto 2011 Annual Report, p. 26.

The working mine, Zululand Anthracite Colliery, was located in South Africa. RTCM had a 74 percent ownership interest in the mine, which Rio Tinto planned to divest. See Rio Tinto 2011 Annual Report, p. 26.

⁵³ Tata Steel Limited is a fully integrated steel producer, with operations ranging from mining to manufacturing and marketing finished products. The company operates in 26 countries with a commercial presence in over 50 countries. See Tata Steel Limited, "Company Profile," available at <<https://www.tatasteel.com/corporate/our-organisation/company-profile/>>.

⁵⁴ Rio Tinto Media Release, *Rio Tinto announces record first half earnings*, August 4, 2011, p. 40; Interim 2011 Rio Tinto plc Earnings Presentation Transcript, August 4, 2011, Thomson Reuters, p. 6.

⁵⁵ Interim 2011 Rio Tinto plc Earnings Presentation Transcript, August 4, 2011, Thomson Reuters, p. 6.

Coking coal, also known as metallurgical coal, is mainly used in steel production. Thermal coal, also known as steam coal, is mainly used in power generation. World Coal Association, "Uses of Coal," available at <<https://www.worldcoal.org/coal/uses-coal/>>.

⁵⁶ Interim 2011 Rio Tinto plc Earnings Presentation Transcript, August 4, 2011, Thomson Reuters, p. 6.

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strategic production planning was underway at Zambeze where the full potential of the project was still under investigation.⁵⁷

23. At an investor seminar on September 20, 2011, Doug Ritchie (“Mr. Ritchie”), chief executive of the Energy division, provided additional detail on the company’s development plans for RTCM stating:

The Moatize Basin in Mozambique is home of the best undeveloped coke and coal resources in the world. Rio Tinto Coal Mozambique earned Tier 1 resources, which are long-life, will be cost-competitive, and with substantial expansion options. We plan to grow these assets into an export level of about 25 million tonnes per annum coking coal by 2020. We see this region providing a development opportunity that will achieve long-term and sustainable growth over a 50-year-plus time-frame.⁵⁸

24. Regarding production, Mr. Ritchie explained that RTCM was expecting to export 1 million tonnes of hard coking coal by rail and 0.5 million tonnes of thermal coal from Benga in 2012, with stage two production from Benga slated for 2015.⁵⁹ He further announced that an exploration license for Zambeze had been granted and that various studies and exploratory drilling were underway with the first production from Zambeze expected to commence in 2014.⁶⁰ First production from Tete East, a “potential third Tier 1 hard [coking] coal project,” was not expected until after 2016.⁶¹
25. Because the Moatize Basin, the site of RTCM’s tenements, is located more than 500 kilometers inland, Rio Tinto needed an infrastructure solution (barge, rail, or other transportation methods) to support large scale coal exports to the coast as well as port facilities to load the coal into ocean-going vessels for export.⁶² At the time that Rio Tinto purchased Riversdale, the infrastructure to ship coal to the port and load it onto ocean-going vessels consisted only of the Sena railway line, which had limited capacity of only 6 Mtpa and was in the process of being refurbished, and the port

⁵⁷ Interim 2011 Rio Tinto plc Earnings Presentation Transcript, August 4, 2011, Thomson Reuters, p. 18.

⁵⁸ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 7.

⁵⁹ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 7; Rio Tinto Investor Seminar Slides, September 20, 2011, p. 27.

⁶⁰ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 7; Rio Tinto Investor Seminar Slides, September 20, 2011, p. 28.

⁶¹ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 7; Rio Tinto Investor Seminar Slides, September 20, 2011, p. 29.

⁶² See, e.g., Rio Tinto, Investor Seminar Presentation Slides, September 20, 2011, pp. 26, 30; Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 7; “The Political Climate for Foreign Investment in Mozambique,” *Bloomberg*, August 9, 2011.

of Beira, which also had a limited capacity of only 6 Mtpa.⁶³ To export coal on the scale Rio Tinto envisaged required additional transportation and port infrastructure solutions.⁶⁴

26. The first coal from Benga was expected to be transported via the Sena railway line to Beira.⁶⁵ A transportation option for stage two and beyond, barging coal down the Zambeze River, was undergoing a pre-feasibility study.⁶⁶ Mr. Ritchie noted that the barging option was expected “to start small at around 3 million tonnes per annum in 2015, growing [to] over 20 million tonnes over time.”⁶⁷ Other infrastructure options to further expand capacity included upgrading the Sena/Beira corridor and developing and upgrading the Nacala line, an option favored by Vale, another large international mining company with mining interests in the Moatize Basin.⁶⁸

C. Relative Significance of the RTCM Investment to Rio Tinto

27. In his letter to shareholders included in Rio Tinto’s 2010 Annual Report, Mr. Albanese described the Riversdale acquisition as: “an example of the small to medium sized acquisitions that we are currently focused on.”⁶⁹ Mr. Elliott reiterated that sentiment in his letter stating that the Riversdale investment was: “a good fit with Rio Tinto’s strategy of focusing on small to medium sized acquisitions that provide access to large, long term, cost competitive assets.”⁷⁰ The RTCM investment was intended to enhance Rio Tinto’s competitive position in the coal sector. In its first annual report following the acquisition of Riversdale, Rio Tinto stated:

[t]he Moatize basin in Mozambique is home to one of the best undeveloped coking coal resources in the world. Rio Tinto has the largest license holding in that region and owns Tier 1 resources which are long life, will be cost competitive and will have substantial expansion options. Rio Tinto plans to significantly grow these

⁶³ “The Political Climate for Foreign Investment in Mozambique,” *Bloomberg*, August 9, 2011; “Southern Africa’s coal rail and port bottlenecks,” *Reuters*, August 16, 2011, pp. 1-2.

⁶⁴ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, pp. 7-8.

⁶⁵ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 8; Rio Tinto, Investor Seminar Presentation Slides, September 20, 2011, p. 30.

⁶⁶ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 8.

⁶⁷ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 8.

⁶⁸ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 8; Rio Tinto, Investor Seminar Presentation Slides, September 20, 2011, p. 30; “Rio sets ambitious goals for Mozambique mines,” *The Australian Financial Review* (“AFR”), October 4, 2011.

⁶⁹ Rio Tinto, 2010 Annual Report, March 15, 2011 (“Rio Tinto 2010 Annual Report”), p. 11.

⁷⁰ Rio Tinto 2010 Annual Report, p. 13.

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- assets and sees this region providing a development opportunity that is long term and will achieve sustainable growth over a 50-year-plus timeframe.⁷¹
28. As of fiscal year (“FY”) 2011, coal contributed less than 10 percent of the Company’s consolidated sales revenue,⁷² compared to approximately 50 and 20 percent, respectively, from iron ore and aluminium.⁷³ Rio Tinto’s Energy segment, of which coal is a part, contributed only about 7 percent of FY 2011 Underlying Earnings⁷⁴ whereas the Iron Ore segment contributed more than 85 percent⁷⁵ and the Aluminium segment contributed approximately 3 percent.⁷⁶
29. As of the filing of its 2011 Annual Report, Rio Tinto had approved capital project costs of approximately \$37.098 billion.⁷⁷ Of this amount, approved capital for coal-related projects accounted for only \$2.960 billion (8.0 percent) while the approved capital for RTCM accounted for only \$0.516 billion (1.4 percent).⁷⁸
30. In terms of the relative magnitude of the RTCM investment, in FY 2011 when Rio Tinto completed its investment in Riversdale, it recognized aggregate cash outflows of \$17.38 billion on investing activities in its statement of cash flows.⁷⁹ Rio Tinto paid approximately \$3.69 billion (excluding cash received of \$478 million) to acquire Riversdale, which represents approximately 21.2 percent of the FY 2011 aggregate cash outflow.⁸⁰ Thus, even though Riversdale was the largest single acquisition in FY 2011, it was a relatively small portion of Rio Tinto’s net cash out-flow on capital expenditures and acquisitions that year. In other words, Riversdale was not a large acquisition for a company the size of Rio Tinto.

⁷¹ Rio Tinto 2011 Annual Report, p. 27.

⁷² 9.7 percent = \$5,872 million / \$60,537 million. See **Exhibit 1**.

⁷³ Iron Ore: 48.7 percent = \$29,475 million / \$60,537 million; Aluminium: 20.1 percent = \$12,159 million / \$60,537 million. See **Exhibit 1**.

⁷⁴ 6.9 percent = \$1,074 million / \$15,549 million. See **Exhibit 1**.

⁷⁵ 85.3 percent = \$13,267 million / \$15,549 million. See **Exhibit 1**.

⁷⁶ 2.8 percent = \$442 million / \$15,549 million. See **Exhibit 1**.

⁷⁷ Rio Tinto 2011 Annual Report, pp. 41-42.

⁷⁸ All Coal Projects: 8.0 percent = \$2.960 billion / \$37.098 billion; RTCM: 1.4 percent = \$0.516 billion / \$37.098 billion. See Rio Tinto 2011 Annual Report, pp. 41-42.

⁷⁹ Rio Tinto 2011 Annual Report, p. 133. In 2011, “Net Cash Used in Investing Activities,” which incorporates both inflows and outflows, was an outflow of \$16,838 million.

⁸⁰ Rio Tinto 2011 Annual Report, p. 190.

D. Timeline of Selected Events

31. Below I provide a summary of selected events in this case.⁸¹ **Exhibit 3** summarizes the events that were publicly disclosed along with prices of Rio Tinto's ADRs.⁸²

- *December 5, 2010*: A news article discloses discussions between Rio Tinto and Riversdale regarding Rio Tinto potentially acquiring Riversdale, with an initial bid around A\$15 per share.⁸³
- *December 23, 2010*: Rio Tinto announces that it had agreed to acquire Riversdale for A\$16 per share. The offer is valued at approximately A\$3.9 billion.⁸⁴
- *March 29, 2011*: Rio Tinto declares its bid for Riversdale unconditional and offers to raise its bid to A\$16.50 per share if it achieves a 47 percent stake in the company by April 6, 2011.⁸⁵
- *April 6, 2011*: Rio Tinto achieves a 49.49 percent stake in Riversdale, triggering an increase in its offer price to A\$16.50 per share.⁸⁶
- *April 7, 2011*: Riversdale announces that it has named three directors nominated by Rio Tinto to its board of directors.⁸⁷
- *April 8, 2011*: Rio Tinto announces that it has acquired more than 50 percent of Riversdale's shares and has taken control of the company.⁸⁸
- *August 4, 2011*: Rio Tinto announces that it completed its acquisition of Riversdale on August 1, 2011.⁸⁹
- *September 20, 2011*: Rio Tinto holds an investor seminar in which it provides detail on its plans to develop RTCM.⁹⁰
- *March 1, 2012*: A news article reports that the Government of Mozambique rejected a coal barging study originally submitted by Riversdale citing environmental concerns. The environmental plan proposed barging coal down the Zambezi River.⁹¹

⁸¹ The dates I show are based on the date of the announcement in U.S. Eastern Prevailing Time.

⁸² Additional detail regarding these events is provided in **Appendix C.1** and **Appendix C.5**.

⁸³ "Rio Tinto in talks to buy Riversdale-paper," *Reuters*, December 5, 2010.

⁸⁴ Rio Tinto Media Release, *Recommended A\$16 per share cash offer by Rio Tinto for Riversdale*, December 23, 2010.

⁸⁵ Rio Tinto Media Release, *Rio Tinto bid for Riversdale declared unconditional*, March 29, 2011.

⁸⁶ Rio Tinto Media Release, *Important update in Rio Tinto bid for Riversdale*, April 6, 2011.

⁸⁷ Riversdale Media Release, April 7, 2011.

⁸⁸ Rio Tinto Media Release, *Rio Tinto assumes control of Riversdale Mining Limited*, April 8, 2011.

⁸⁹ Rio Tinto Media Release, *Rio Tinto announces record first half earnings*, August 4, 2011.

⁹⁰ Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC.

⁹¹ "INTERVIEW-Mozambique rejects coal barging study -minister," *Reuters*, March 1, 2012.

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- *March 16, 2012*: Rio Tinto files its annual report detailing for the first time its estimates of the resources and reserves for the Benga and Zambeze mines and the approved capital budget for RTCM of \$516 million.⁹²
- *June 25, 2012*: Rio Tinto announces shipment of the first cargo of premium hard coking coal from the Benga mine.⁹³
- *August 8, 2012*: Rio Tinto releases its HY 2012 financial report, with Underlying Earnings of \$5.2 billion. Rio Tinto also holds earnings presentations in conjunction with the HY 2012 Earnings Release. Regarding RTCM, Rio Tinto discloses that: “[d]uring the first half of the year, Rio Tinto Coal Mozambique produced 123,000 tonnes of thermal coal (80,000 tonnes attributable) and 130,000 tonnes of hard coking coal (85,000 tonnes attributable) at Benga. Benga is expected to move to commercial production during the third quarter of 2012.”⁹⁴
- *October 16, 2012*: Rio Tinto releases its third quarter 2012 operations review, disclosing that during the quarter, the Benga mine produced 134 kilotonnes (“kt”) of hard coking coal (87 kt attributable) and 173 kt of thermal coal (112 kt attributable).⁹⁵
- *November 29, 2012*: Rio Tinto holds an Investor Seminar in Sydney, Australia. The company provides updates on its capital plans, offers an in-depth look at its Iron Ore and Diamonds & Minerals product groups, and comments on other projects, including Mozambique.⁹⁶
- *January 15, 2013*: Rio Tinto releases its fourth quarter 2012 operations review, disclosing that during the quarter, the Benga mine produced 154 kt of hard coking coal (100 kt attributable) and 246 kt of thermal coal (160 kt attributable).⁹⁷
- *January 17, 2013*: Rio Tinto announces a non-cash impairment charge of approximately US\$14 billion in its 2012 full year results. This amount includes \$3 billion related to RTCM (that is, the RTCM Impairment Disclosure) and \$11 billion related to Alcan. It is also announced that Tom Albanese stepped down as CEO by mutual agreement with Rio Tinto’s Board of Directors and that he would be replaced by Sam Walsh, Rio Tinto’s then Iron Ore chief executive.⁹⁸

⁹² Rio Tinto 2011 Annual Report, pp. 26, 42, 49, 52.

⁹³ Rio Tinto Media Release, *Rio Tinto makes first coal shipment from Mozambique*, June 25, 2012.

⁹⁴ Rio Tinto Media Release, *Rio Tinto announces first half underlying earnings of \$5.2 billion*, August 8, 2012, pp. 1, 18.

⁹⁵ Rio Tinto Media Release, *Third quarter 2012 operations review*, October 16, 2012.

⁹⁶ Rio Tinto Media Release, *Rio Tinto Investor Seminar*, November 29, 2012.

⁹⁷ Rio Tinto Media Release, *Fourth quarter 2012 operations review*, January 15, 2013.

⁹⁸ Rio Tinto Media Release, *Rio Tinto impairments and management changes*, January 17, 2013. The press release also states that Mr. Ritchie, who led the acquisition of RTCM had also stepped down by mutual agreement with the Board.

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VI. THE MARKET DID NOT PERCEIVE THE RIVERSDALE ACQUISITION TO BE ACCRETIVE TO RIO TINTO, CONTRARY TO DR. METZ'S OPINION

32. On April 8, 2011, Rio Tinto announced that it had surpassed more than 50 percent ownership of Riversdale and assumed control of the company.⁹⁹ Based on Dr. Metz's event study analysis of Rio Tinto's ADR showing a positive and statistically significant abnormal return on April 8, 2011,¹⁰⁰ Dr. Metz concludes: "the market perceived the investment in Riversdale to be significantly accretive,"¹⁰¹ "the market believed these assets had upside for Rio Tinto," and that the market reacted positively to the Riversdale acquisition.¹⁰²

33. Dr. Metz's conclusion that: "the positive abnormal return on April 8, 2011 was in reaction to the news that Rio Tinto had finally succeeded in acquiring control of Riversdale"¹⁰³ is based on several factors, namely:

1) analysts' assessment of Riversdale as a world-class asset desired by multiple major mining companies; 2) analysts' contemporaneous interpretation of Rio Tinto's earlier bids for Riversdale as inadequate to secure control; 3) analysts' expectation from December 2010 through at least March 2011 that there would be competition for the Riversdale mining assets, casting doubt on whether Rio Tinto would ultimately be successful in its efforts to acquire Riversdale; 4) publicly disclosed resistance from Tata Steel and CSN from December 2010 through as late as March 2011, further casting doubt on whether Rio Tinto would ultimately be successful; 5) contemporaneous news sources linking the positive price reaction of April 8, 2011 to the successful acquisition; and 6) the lack of other ("confounding") positive news regarding Rio Tinto on April 8, 2011 which would move the price of Rio Tinto ADRs on this date.¹⁰⁴

34. However, Dr. Metz's analysis and conclusions are deeply flawed. First, factors 2, 3, and 4 were only true through March 28, 2011 (at the latest). As I document below, a review of Rio Tinto's disclosures and the available news and analysts' reports from March 28, 2011 to April 7, 2011, an analysis Dr. Metz failed to present, reveals that Rio Tinto's assumption of control on April 8, 2011

⁹⁹ Rio Tinto Media Release, *Rio Tinto assumes control of Riversdale Mining Limited*, April 8, 2011.

¹⁰⁰ Metz Report, ¶ 54. Specifically, Dr. Metz finds that the Rio Tinto ADR had a positive abnormal return of 3.0 percent with a *t*-statistic of 2.52 on April 8, 2011.

¹⁰¹ Metz Report, ¶ 115.

¹⁰² Metz Report, ¶¶ 16, 61.

¹⁰³ Metz Report, ¶ 61.

¹⁰⁴ Metz Report, ¶ 61.

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was not a surprise to market participants and had been considered a near certainty according to news and analysts' reports from at least April 7, 2011, if not earlier.

35. Dr. Metz's event study analysis also shows that the abnormal returns on Rio Tinto's ADR in the days leading up to April 8, 2011, when Rio Tinto made several announcements regarding its bid to acquire Riversdale are not statistically significant. As these announcements appear to have resolved more uncertainty about whether Rio Tinto would gain control of Riversdale than the April 8, 2011 announcement, one would expect the days when these announcements occurred to have positive statistically significant abnormal returns if the market viewed gaining control as accretive as posited by Dr. Metz. Thus, these results provide additional evidence to refute Dr. Metz's conclusion that the market viewed Rio Tinto's acquisition of control of Riversdale on April 8, 2011 as accretive.
36. Furthermore, Dr. Metz uses an industry index in his event study analysis that declined on April 8, 2011. However, Dr. Metz's industry index does not include a number of Rio Tinto's peers, as identified in its 2011 Annual Report, including Anglo American, Xstrata, BHP Billiton, and Barrick Gold which experienced gains on April 8, 2011, at least in part due to increases in metals prices on that day. This pattern suggests that Dr. Metz's industry index does not sufficiently control for industry factors. As I discuss below, I analyzed the industry index that Dr. Metz uses and found that it has a high concentration of companies whose operations differ from Rio Tinto's, and it is likely that the stock prices of many of the companies in the index would react in different ways than Rio Tinto's ADR price to changes in commodity prices because of the differences in their lines of business. For example, steel manufacturers, which make up 19 percent of Dr. Metz's index, use raw materials such as iron ore and coke in their production; therefore an increase in the price of iron ore or other commodities may negatively affect steel manufacturers' earnings and their stock prices—the opposite effect such a price increase would be expected to have on a company like Rio Tinto, whose revenues and profits increase as commodity prices increase. This result makes steel companies, for example, poor controls for the industry factors affecting Rio Tinto in an event study analysis.
37. I demonstrate that alternative industry indices that have higher concentrations of companies that are similar to Rio Tinto better explain the daily movements in Rio Tinto's ADR price than the index used by Dr. Metz. Replacing Dr. Metz's industry index with these alternatives, I conclude that, after better controlling for the industry factors affecting Rio Tinto's ADR, the abnormal return on April 8, 2011 is not statistically significantly different from zero at the five-percent level—the statistical threshold adopted by Dr. Metz. Therefore, I conclude that the Rio Tinto-specific news

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released on April 8, 2011, including news about Rio Tinto surpassing a 50 percent ownership stake in Riversdale, did *not* cause the ADR price to move outside of the normal range of random variation and find *no* evidence that Rio Tinto's acquisition of control of Riversdale on April 8, 2011 caused the ADR price movement that day.¹⁰⁵ Accordingly, the evidence does not support Dr. Metz's conclusion that the market viewed Rio Tinto's acquisition of control of Riversdale on April 8, 2011 as accretive.

38. In addition, attributing the abnormal return calculated by Dr. Metz to the value to Rio Tinto of acquiring control of Riversdale yields nonsensical results and runs counter to valuation principles. Specifically, I calculate that Dr. Metz's abnormal return of 3.0 percent on April 8, 2011 implies that the value of control to Rio Tinto was at least \$4.2 billion, which implies that by merely gaining control, the market value of its interest in Riversdale would more than triple.
39. Moreover, this estimate assumes that Rio Tinto's acquisition of control on April 8, 2011 was a complete surprise, which I find was not the case. Abnormal returns measure the impact on a security's price of new information. As of April 7, 2011, Rio Tinto already owned 49.49 percent of Riversdale and market participants¹⁰⁶ were nearly certain that Rio Tinto would gain control of the company. According to analysts' reports and news reports, the new information released on April 8, 2011 was that Rio Tinto's ownership share increased from 49.49 percent to above 50 percent. Hence, the probability that Rio Tinto would gain control of Riversdale went from "nearly certain" to "certain." Thus, the abnormal return on April 8, 2011 measures the *incremental* change in the market's expectation that Rio Tinto would gain control of Riversdale from "nearly certain" on April 7, 2011 to "certain" on April 8, 2011 and not the full value to Rio Tinto of achieving control of Riversdale. As a result, the full value of control implied by Dr. Metz's analysis is likely substantially greater than the abnormal increase in Rio Tinto's market capitalization on April 8, 2011, \$4.2 billion. As I show below, taking into account market participants' "near certainty" on this issue on April 7, 2011, the estimates of the full value to Rio Tinto of control implied by Dr. Metz's abnormal return on April 8, 2011 are astronomical and nonsensical. Thus, even if Rio

¹⁰⁵ This conclusion accords with Dr. Metz's explanation of the implications of observing an abnormal return with a *t*-statistic with an absolute value less than 1.96, the level associated with statistical significance at the 5 percent level: a *t*-statistic less than 1.96 in absolute value means that "there is no statistical evidence to suggest that anything beyond the usual random variation is affecting Rio Tinto's ADR return..." Metz Report, ¶¶ 48-50.

¹⁰⁶ Market participants include securities analysts who are paid to follow and provide investors with coverage on a security, arbitrage funds that seek to exploit informational advantages, hedge funds, other institutional investors, members of the news media who cover financial markets and business news, and so on.

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Tinto's ADR had a statistically significant abnormal return on April 8, 2011, valuation principles point to it being attributable to a factor other than Rio Tinto gaining control of Riversdale.

A. Rio Tinto's Acquisition of Control of Riversdale on April 8, 2011 Was Not a Surprise, Contrary to Dr. Metz's Opinion

40. In order to support his opinion that the ADR's positive abnormal return on April 8, 2011: "was in reaction to the news that Rio Tinto had *finally* succeeded in acquiring control of Riversdale,"¹⁰⁷ Dr. Metz characterizes that disclosure as a surprise. For example, three of the factors he cites as supporting his finding:

2) analysts' contemporaneous interpretation of Rio Tinto's earlier bids for Riversdale as inadequate to secure control; 3) analysts' expectation from December 2010 through at least March 2011 that there would be competition for the Riversdale mining assets, casting doubt on whether Rio Tinto would ultimately be successful in its efforts to acquire Riversdale; 4) publicly disclosed resistance from Tata Steel and CSN from December 2010 through as late as March 2011, further casting doubt on whether Rio Tinto would ultimately be successful.¹⁰⁸

imply that Rio Tinto's ability to acquire control was heavily in doubt prior to the April 8, 2011 disclosure. However, Dr. Metz failed to present or discuss the company disclosures made in the days leading up to April 8, 2011 and the market reactions to those disclosures, which reveal that his characterization paints a misleading picture of Rio Tinto's progress in gaining a controlling interest in Riversdale.¹⁰⁹ My review, by contrast, of the company disclosures, news reports, and analysts' reports released between the end of March and April 7, 2011 demonstrates that Rio Tinto's acquisition of control of Riversdale on April 8, 2011 was not a surprise.

¹⁰⁷ Metz Report, ¶ 61 (emphasis added).

¹⁰⁸ Metz Report, ¶ 61.

¹⁰⁹ Despite having reviewed over 30,000 headlines of news reports published between December 1, 2010 and January 17, 2013 (*see* Metz Report, Appendix A; Metz Production, SEC-GLOBALECO-E-0001627.pdf; Metz Production, SEC-GLOBALECO-E-0001628), Dr. Metz only obtained four news reports published between March 29, 2011 and April 6, 2011. None of these news reports provide relevant commentary on the events they report, and in his report he failed to describe market participants' increasing confidence that Rio Tinto would obtain control of Riversdale (as I discuss below). However, the increasing confidence that Rio Tinto would gain control over this period would be apparent from a review of the headlines that Dr. Metz considered, particularly on April 6 and April 7, 2011. *See, e.g.*, "MARKET TALK: Rio Tinto Edges Closer to Riversdale Takeover," *Dow Jones Newswires*, April 6, 2011; "Riversdale is Rio's," *Business Spectator*, April 7, 2011; "Rio Tinto grabs the reins at Riversdale," *Financial Times*, April 7, 2011; "Late surge puts Rio in driver's seat on Riversdale," *The Australian*, April 7, 2011. Dr. Metz did not obtain or consider the news reports associated with these headlines that shed light onto whether the information released on April 8, 2011 was a surprise.

41. In his report, Dr. Metz analyzes the market for Rio Tinto's ADRs and concludes that it is efficient.¹¹⁰ He defines a market as efficient if: "all public information is reflected in a security's market price and security prices adjust to new publicly available information (information which might be false) rapidly and in an unbiased fashion so that it is impossible to earn excess returns by trading on that information."¹¹¹ As stated by Dr. Metz,¹¹² this definition of market efficiency is known as the "semi-strong form" of market efficiency.¹¹³ After reviewing Dr. Metz's analysis and supporting documents, I considered three additional factors related to whether Rio Tinto's ADRs traded in an efficient market from December 1, 2010 through January 17, 2013. First, the short interest ratio¹¹⁴ of Rio Tinto's ADR during the period between December 1, 2010 and January 17, 2013 indicates that, on average, investors who had sold the security short would be able to cover their positions in about three days.¹¹⁵ This figure was in line with the median short interest ratio of companies included in the S&P 500 Index as of January 17, 2013. Secondly, returns on Rio Tinto's ADR exhibit virtually no serial correlation, meaning it does not exhibit patterns that allow reliable prediction of future price movements from past price movements.¹¹⁶ Moreover, Rio Tinto did not have any controlling shareholder.¹¹⁷ Each of these factors is consistent with a finding that Rio Tinto's ADR traded in an efficient market. Thus, based on my review of Dr. Metz's market

¹¹⁰ Metz Report, ¶ 15.

¹¹¹ Metz Report, ¶ 29.

¹¹² Metz Report, ¶ 29.

¹¹³ Brealey, Richard, Stewart Myers, and Franklin Allen, *Principles of Corporate Finance*, 12th ed., McGraw-Hill Irwin, 2017 ("Brealey, *et al.*"), p. 332.

¹¹⁴ Short interest is the total number of shares of a security that have been sold short on a given day. Short interest ratio is equal to short interest divided by average daily trading volume; the ratio measures the expected number of days it takes to close out shares that have been shorted. The greater the short interest ratio is, the more difficult it is for short sellers to close their positions.

¹¹⁵ In *Polymedica*, the court found that a short interest ratio of ten days or more indicated difficulty in finding shares to short. *See In re Polymedica Corp. Sec. Litig.*, 453 F. Supp. 2d 260, 273-4 (D. Mass. 2006).

¹¹⁶ A finding of no serial correlation weighs in favor of market efficiency. *See, e.g., In re Polymedica*, 453 F. Supp. 2d, at 277-78. I calculate the daily returns of Rio Tinto's ADRs during the period between December 1, 2010 and January 17, 2013 and use standard regression techniques to determine if there is any evidence of a predictive relationship between Rio Tinto's ADR returns on a given day and its returns on the prior day. The autocorrelation coefficient from this analysis is -0.12 and is not statistically significant (*t*-statistic is -0.29) at the five-percent level. Dr. Metz performed a similar test using abnormal returns instead of the actual ADR returns and found similar results. *See* Appendix C of Metz Report, ¶ 37 and Exhibit C9.

¹¹⁷ The Rio Tinto 2010 Annual Report states that: "As far as is known, Rio Tinto plc and Rio Tinto Limited are not directly or indirectly owned or controlled by another corporation or by any government or natural person. Rio Tinto is not aware of any arrangement which may result in a change in control." Rio Tinto 2010 Annual Report, p. 274. *See also* Rio Tinto 2011 Annual Report, p. 122; Rio Tinto 2012 Annual Report, p. 130; Rio Tinto 2013 Annual Report, p. 237.

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efficiency analysis and the additional analysis I performed, I agree with Dr. Metz's conclusion that Rio Tinto's ADR traded in an efficient market from December 1, 2010 through January 17, 2013.

42. Rio Tinto's ADRs trading in an efficient market implies that any information disclosed to the market as of the end of trading on April 7, 2011 *was incorporated into the price* of Rio Tinto's ADRs at the close of trading on April 7, 2011. Thus, to ascertain the cause of the abnormal return on April 8, 2011 that Dr. Metz finds, it is critical to isolate the portion of the information released on April 8, 2011 that was truly new.
43. As I discussed above in **Section V.B**, Rio Tinto's achievement of control of Riversdale on April 8, 2011 was preceded by several changes to its bid that made it more attractive to Riversdale's shareholders. The final change made by Rio Tinto was on March 29, 2011 (before U.S. market open), when Rio Tinto declared its bid unconditional, dropping its condition that it would only acquire shares if at least 50 percent of shareholders agreed to sell, and announced that it would increase its bid price to A\$16.50 per share if it achieved at least a 47 percent stake in Riversdale by April 6, 2011.¹¹⁸ At the time this announcement was made, Rio Tinto had agreements with shareholders to obtain 41.04 percent of Riversdale's shares but had not yet formally purchased any shares.¹¹⁹ With its announcement that the bid was now unconditional, Rio Tinto announced that it would now purchase these shares within five business days and would purchase any additional shares offered to it within five business days of the offer.¹²⁰

¹¹⁸ Rio Tinto Media Release, *Rio Tinto bid for Riversdale declared unconditional*, March 29, 2011. *See also* **Appendix C.1**.

¹¹⁹ Rio Tinto Media Release, *Form 604 and Institutional Acceptance Facility update*, March 29, 2011. *See also* **Appendix C.1**.

¹²⁰ Rio Tinto Media Release, *Rio Tinto bid for Riversdale declared unconditional*, March 29, 2011.

44. This announcement generated substantial discussion among market participants as I show in **Appendix C.2**¹²¹ and **Appendix C.3**.¹²² In particular, a number of reporters and analysts indicated that achieving a 47 percent stake would be feasible and that Rio Tinto had improved its chances of gaining control of Riversdale. For example:

- *Reuters* reported that: “Rio’s softly, softly approach should pay off.”¹²³
- A Merrill Lynch analyst stated that: “[i]n our view lifting the 50% conditionality on the offer should help maintain the recent momentum in acceptances of ~5% [per week] since mid-March. On this basis, we believe the 47% is achievable.”¹²⁴
- An RBC analyst stated that: “[l]ifting its interest to 47% would match the combined interest of Tata (27%) and CSN (20%) and would also enable it to creep to 50% after closing the offer. Tata and CSN have both reached the 3% creep limit in recent months... .”¹²⁵

45. Rio Tinto’s adjusted bid was expected to improve its chances because index funds, which were estimated to own 5 to 7 percent of Riversdale’s shares, were not able to commit to sell their shares

¹²¹ **Appendix C.2** contains selected quotes from news reports available on Factiva. To identify news reports, I performed two searches. The first search was for news reports with the keywords “Rio Tinto” and “Riversdale” published between March 28, 2011 and April 9, 2011 by one of the following ten publications: *The Australian*, *The New York Times*, *The Wall Street Journal*, *The Australian Financial Review*, *Reuters*, the *Herald Sun*, *The Sydney Morning Herald*, *Business Spectator*, *MarketWatch*, and *The Financial Times*, which yielded 151 news reports. The second search was for news reports with the keywords “Rio Tinto” and “Riversdale” published by *Dow Jones Newswires* during the periods March 28 to March 31, 2011 and April 4 to April 8, 2011 excluding news reports that include the phrases: “of the day,” “morning briefing,” “top stories,” or “corporate calendar,” which yielded 81 news reports. I excluded news reports including “of the day,” “morning briefing,” and “top stories,” because they include only a short summary of various news without detailed information and commentary. I excluded news reports including “corporate calendar” because they report the dates of various corporate events, which are not relevant to my analysis. I then identified news reports that include a reaction to Rio Tinto’s disclosures during this period or analysis of Rio Tinto’s chances to complete the takeover and include selected quotations from one news report per source per Rio Tinto disclosure in the appendix. I also include additional news reports identified by Dr. Metz that were published on April 8, 2011.

¹²² **Appendix C.3** contains selected quotes from eight analysts’ reports produced in discovery or provided by Rio Tinto and analysts’ reports available to me from Capital IQ and Thomson ONE that were published between March 28 and April 11, 2011 and contain keywords related to RTCM. These keywords are Riversdale, Mozambique, Tete, Moatize, RTCM, Zambeze, Zambezi, barging, or barge. I limited my analysis to one report per contributor per day. The notes to **Appendix C.3** provide additional detail on how I identified and compiled these reports.

¹²³ See **Appendix C.2**, “RPT-BREAKINGVIEWS-Rio right to play long game with Riversdale,” *Reuters*, March 29, 2011.

¹²⁴ See **Appendix C.3**, Merrill Lynch, “RIV offer unconditional, next goal 47% ... more M&A to come?,” March 29, 2011, p. 1. See also **Appendix C.3**, e.g., Merrill Lynch, “RIV bid: +ve developments by S&P (index) & CSN (s’holder),” March 30, 2011, p. 1.

¹²⁵ See **Appendix C.3**, RBC Capital Markets, “Rio’s \$16.00 Offer Goes Unconditional; Increased to \$16.50 if It Reaches 47%,” March 29, 2011, p. 1.

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in Riversdale to Rio Tinto under the previous conditional bid structure.¹²⁶ Acquiring an additional 6 percent share of Riversdale would give Rio Tinto more than a 47 percent stake in Riversdale, greater than the combined 47 percent stake of the other two large shareholders in Riversdale, Tata and Companhia Siderugica Nacional (“CSN”), which would “effectively hand it control” of Riversdale.¹²⁷ Additionally, the combined share of the three largest shareholders was already near 90 percent, leaving only 10 percent of shares readily tradable.¹²⁸ Such illiquidity was expected to prompt small shareholders to sell their shares to Rio Tinto, improving the likelihood that Rio Tinto could gain control of the company, though it was not certain whether it would succeed.¹²⁹

46. As I show in **Appendix C.1**, the updates to Rio Tinto’s bid did indeed prompt shareholders to agree to sell their shares to Rio Tinto. In the days that followed, Rio Tinto steadily increased its shareholding from 41.04 percent on March 29 to 41.51 percent on March 30 to 43.14 percent on April 4 to 44.31 on April 5 and to 46.78 percent on the morning of April 6. After the Australian markets closed on April 6, 2011 (before market open on April 6 in the U.S.), Rio Tinto announced that it had acquired a 49.49 percent interest in Riversdale, above the threshold of 47 percent needed to trigger the increased bid price of A\$16.50 per share.¹³⁰ This announcement further increased the optimism of market participants that Rio would be able to achieve control of Riversdale, with at least one source saying it was: “a near certainty.”

- “It is now a near certainty that Rio will end up owning more than half of Riversdale’s shares.”¹³¹

¹²⁶ See **Appendix C.2**, e.g., “Rio Tinto Fails in Sweetened Riversdale Bid,” *The Wall Street Journal*, March 29, 2011; “Rio lowers bar -- and surprises Riversdale’s top holders,” *The Australian*, March 30, 2011; “Rio makes move on Riversdale,” *AFR*, March 30, 2011. Such a move had been anticipated by at least one news source. See **Appendix C.2**, “Rio’s day of reckoning on Riversdale bid,” *The Australian*, March 29, 2011.

¹²⁷ See **Appendix C.2**, e.g., “Rio’s day of reckoning on Riversdale bid,” *The Australian*, March 29, 2011; **Appendix C.3**, e.g., RBC Capital Markets, “Rio’s \$16.00 Offer Goes Unconditional; Increased to \$16.50 if It Reaches 47%,” March 29, 2011, p. 1.

¹²⁸ See **Appendix C.2**, e.g., “Riversdale minority holders seen accepting Rio bid,” *MarketWatch*, March 30, 2011.

¹²⁹ See **Appendix C.2**, e.g., “Riversdale minority holders seen accepting Rio bid,” *MarketWatch*, March 30, 2011.

¹³⁰ Rio Tinto Media Release, *Important update in Rio Tinto bid for Riversdale*, April 6, 2011. See also **Appendix C.1**.

¹³¹ See **Appendix C.2**, “Late surge puts Rio in driver’s seat on Riversdale,” *The Australian*, April 7, 2011.

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- “The announcement puts Rio Tinto within inches of taking full control of the mining company, after its decision last week to make its bid unconditional... It is entirely possible that, within that time, Rio Tinto will gain more than half the company.”¹³²
- “Rio is poised to snare control of its \$3.9 billion target Riversdale Mining after amassing a 49.49 per cent stake in the coal miner.”¹³³
- “What a week - in just 5 trading days Rio has inched higher on the RIV register from ~41% to 49.49% - quite a turnaround from early March when the bid was looking challenging with minimal acceptances locked in. It now appears increasingly likely that Rio will secure control of RIV despite the share free float (based on yesterdays close) of around 3% - quite an extraordinary outcome.”¹³⁴

47. Shortly after U.S. market close on April 6, 2011, Riversdale announced that: (1) Rio Tinto had appointed three directors from Rio Tinto to Riversdale’s board, (2) the Riversdale Board (including the Tata representative) unanimously recommended that Riversdale shareholders accept Rio Tinto’s offer: “in the absence of a superior proposal,” and (3) the Riversdale Chairman would resign from the board at the earlier of Rio Tinto gaining 50 percent or the offer closing.¹³⁵ Following that announcement, multiple market participants indicated that Rio Tinto was now expected to obtain control:

- “Rio is expected to acquire a minimum holding of 50.1 percent.”¹³⁶
- “Rio Tinto has in effect taken control of Riversdale... a boardroom shuffle on Thursday signaled an impending change of control.”¹³⁷
- “Rio Tinto should soon gain a majority stake in Riversdale Mining.”¹³⁸
- “Rio Tinto held its nerve throughout the protracted process of its bid for Riversdale and has, almost against the odds, been able to emerge with effective control... [I]t would now appear certain it will obtain majority control and the Riversdale will become a Rio Tinto subsidiary.”¹³⁹

¹³² See **Appendix C.2**, “Rio Tender Offer Exceeds Its Goal and Gets Extended; DealBook,” *The New York Times*, April 6, 2011.

¹³³ See **Appendix C.2**, “Rio builds up stake,” *Herald-Sun*, April 7, 2011.

¹³⁴ See **Appendix C.3**, Merrill Lynch, “Riversdale bid: edges close to 50.1% and 14 days still to go...,” April 6, 2011, p. 1.

¹³⁵ Riversdale Media Release, April 7, 2011. As I show in **Appendix C.1**, the Riversdale Media Release was published on April 7, 2011 at 10:23 am Australian Eastern Time, which was 8:23 pm on April 6, 2011 in U.S. Eastern Time.

¹³⁶ See **Appendix C.2**, “PRESS DIGEST-Australian Business News - April 8,” *Reuters*, April 7, 2011.

¹³⁷ See **Appendix C.2**, “Rio Tinto grabs the reins at Riversdale,” *Financial Times*, April 7, 2011.

¹³⁸ See **Appendix C.2**, “Rio to take major stake in Riversdale,” *AFR*, April 8, 2011.

¹³⁹ See **Appendix C.2**, “Riversdale is Rio’s,” *Business Spectator*, April 7, 2011.

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48. Thus, it was not a surprise when on April 8, 2011, Rio Tinto announced that its shareholdings in Riversdale had surpassed 50 percent and that it had gained control of Riversdale as market participants were “nearly certain” that Rio Tinto would gain control of the company as of April 7, 2011. As the market for Rio Tinto’s ADR was efficient and its price already incorporated all widely-available public information, one would not expect it to cause a statistically significant abnormal return on April 8, 2011.¹⁴⁰ This lack of a surprise is confirmed by the reactions of market participants on April 8, 2011. As I show in **Appendix C.2**, news reports, even those cited by Dr. Metz, do not express surprise that control was achieved but merely report on the acquisition with little commentary.¹⁴¹ Similarly, the only analyst’s report I was able to locate that was published on April 8, 2011, a report which was also cited by Dr. Metz, does not express surprise that Rio Tinto achieved control of Riversdale but rather states: “Rio had been steadily increasing its position in Riversdale but today marks the point where its interest rose above 50%.”¹⁴²
49. Hence, three of the factors Dr. Metz relies on to support his conclusion that the abnormal return on April 8, 2011 was caused by Rio Tinto’s acquisition of control of Riversdale are based on outdated information and belied by the available company disclosures, news reports, and analysts’ reports in the days leading up to April 8, 2011. Specifically, although Dr. Metz may be correct that analysts interpreted: “Rio Tinto’s earlier bids for Riversdale as inadequate to secure control,”¹⁴³ an analyst that had expressed that opinion, from Merrill Lynch, was saying by April 6, 2011 that: “[i]t now appears increasingly likely that Rio will secure control of RIV despite the share free float (based on yesterdays close) of around 3% - quite an extraordinary outcome.”¹⁴⁴ Second, although Dr. Metz may be correct that analysts expected competition earlier in 2011,¹⁴⁵ he cites no evidence that analysts believed Rio Tinto had potential competition for Riversdale as of April 8, 2011 and he concedes that he: “was unable to find evidence that another bidder actually emerged.”¹⁴⁶ Finally,

¹⁴⁰ Metz Report, ¶¶ 15, 28, 50.

¹⁴¹ I further note that I excluded many of the news reports that I reviewed from this appendix because they provided no reaction at all to the news, but simply reported that the announcement had occurred.

¹⁴² See **Appendix C.3**, Dolmen Securities, “Dolmen Daily,” April 8, 2011, p. 1. I further note that I was unable to locate any analysts’ reports published on April 11, 2011 that contained a reaction to this announcement.

¹⁴³ Metz Report, ¶ 61.

¹⁴⁴ See **Appendix C.3**, Merrill Lynch, “Riversdale bid: edges close to 50.1% and 14 days still to go...,” April 6, 2011, p. 1.

¹⁴⁵ Metz Report, ¶ 61.

¹⁴⁶ Metz Report, ¶ 57 n. 44.

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although there was “publicly disclosed resistance from Tata Steel and CSN from December 2010 through as late as March 2011,” as Dr. Metz claims,¹⁴⁷ the commentary discussed above from market participants makes it clear that Rio Tinto was able to find an alternative path to achieving control that did not require acquiescence from Tata and CSN.¹⁴⁸

B. The Abnormal Returns on Rio Tinto’s ADR in the Days Leading up to April 8, 2011 When Rio Tinto Made Several Announcements Regarding its Bid to Acquire Riversdale Are Not Statistically Significant in Dr. Metz’s Model

50. Dr. Metz’s conclusion that there was a statistically significant positive abnormal return on April 8, 2011 is based on the results of an event study analysis.¹⁴⁹ However, Dr. Metz’s event study analysis also shows that the abnormal returns on Rio Tinto’s ADR in the days leading up to April 8, 2011, when Rio Tinto made several announcements regarding its bid to acquire Riversdale are not statistically significantly different from zero. As these announcements appear to have resolved more uncertainty about whether Rio Tinto would gain control of Riversdale than the April 8, 2011 announcement, one would expect the days when these announcements occurred to have positive statistically significant abnormal returns if the market viewed gaining control as accretive as posited by Dr. Metz.¹⁵⁰ Thus, these results provide additional evidence to refute Dr. Metz’s conclusion that the market viewed Rio Tinto’s acquisition of control of Riversdale on April 8, 2011 as accretive.
51. To perform an event study analysis, researchers use a regression model—a statistical model used to estimate the relationships between several variables¹⁵¹—to estimate the relationship between the return on a particular stock, in this case, Rio Tinto’s ADRs, and the returns of the overall market and the industry (“Market Model”).¹⁵² The returns of the overall market are typically measured by

¹⁴⁷ Metz Report, ¶ 61.

¹⁴⁸ See **Appendix C.2** and **Appendix C.3**.

¹⁴⁹ Metz Report, ¶¶ 38-42.

¹⁵⁰ Metz Report, ¶ 18.

¹⁵¹ Specifically, a regression model takes the form $y = a + b_1 * x_1 + b_2 * x_2 + \dots + b_n * x_n + e$, in which y is the dependent variable that is hypothesized to depend on, or vary with, the independent x -variables. e , known as the error term, represents random variation in the dependent y -variable that is not explained by the independent x -variables. a , known as the regression constant, represents the average value of the dependent y -variable when the independent x -variables are zero. The terms b_1 , b_2 , through b_n are the coefficients on the independent variables and are some of the parameters that are estimated with a regression model. Each coefficient describes the relationship between the independent variable it is associated with and the dependent variable, holding all of the other independent variables constant.

¹⁵² In this case, the dependent variable is Rio Tinto’s ADR return, and the independent variables are: the market index return (x_1) and the industry index return (x_2).

a broad-based index covering all types of stocks trading in the same market as the particular stock of interest. In this case, Rio Tinto's ADRs trade in the U.S. and therefore an appropriate market index is the S&P 500 Total Return Index, which is the market index used by Dr. Metz.¹⁵³

52. To measure the returns of the industry in which the company participates, it is important to identify a set of peers with businesses that are similar to the company as the purpose of the industry index is to identify and control for changes in industry-wide factors, *e.g.*, commodity prices, that affect both the at-issue company and its peers in the same way. Doing so allows the researcher to isolate whether a price change is due to the impact of company-specific news and events versus news and events that affect a range of companies. The returns of the industry can be measured by a commercially available index or an index constructed by the researcher, so long as it meets these criteria. In this case, Rio Tinto is a mining company whose primary products are iron ore, aluminium, coal, and precious metals,¹⁵⁴ and therefore an appropriate industry index would be made up of companies producing similar products.
53. The estimates produced by the regression model include estimates of the coefficients on the market and industry returns, which measure the sensitivity of the stock's return (here, the return on Rio Tinto's ADRs) to changes in the market and industry returns.¹⁵⁵ The regression coefficients are then applied to the market and industry returns for a given day to predict the stock's return on that day.¹⁵⁶ The "predicted return" for a specific day is the portion of that day's stock price change that is explained by market-specific and/or industry-specific factors. The "residual return" or "abnormal return" is the difference between the actual return on the stock and the predicted return.
54. The next step in an event study analysis is to test the hypothesis that the abnormal return on the day of interest is within the normal range of random variation for the stock's returns, which is done by

¹⁵³ The S&P 500 Total Return Index is a market capitalization weighted index composed of 500 U.S. listed companies and covers approximately 80 percent of the available market capitalization. Metz Report, ¶ 38; S&P, "S&P U.S. Indices Methodology," December 2019; S&P, "S&P 500," available at <<https://us.spindices.com/indices/equity/sp-500>>.

¹⁵⁴ Rio Tinto 2012 Annual Report, pp. 2-3.

¹⁵⁵ For example, using the notation described above, if b_1 , the coefficient on x_1 , the market index return, is equal to 1.5, this implies that for every one percentage point increase in the market index return, holding the industry index return constant, the return on Rio Tinto's ADR will increase by 1.5 percentage points.

¹⁵⁶ Specifically, per the regression model described above: the coefficient on the market index (b_1) is multiplied by the market index return on the day of interest (x_1) and the coefficient on the industry index (b_2) is multiplied by the industry index return on the day of interest (x_2). Then these two products are summed together, along with the estimate of the regression constant, a , to produce the predicted return on the stock on the day of interest.

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testing whether the abnormal return is statistically significantly different from zero. A statistically significant abnormal return means that the return is outside the normal range of random variation; *i.e.*, it is greater in absolute magnitude than would be expected given the observed changes in the market and industry indices and the security's sensitivity to movements in the market and industry indices. To use Dr. Metz's language, a statistically significant return is one that: "is so great that randomness alone can be scientifically rejected as the cause of the deviation."¹⁵⁷ In the context of the price impact of a company disclosure, if the abnormal return following a disclosure is not negative and/or not statistically significant, then there is no indication that the stock price was negatively affected by the disclosure. Similarly, if the abnormal return following a disclosure is not positive and/or not statistically significant, then there is no indication that the stock price was positively affected by the disclosure.

55. As discussed in the prior subsection, Rio Tinto made announcements regarding its bid to obtain control of Riversdale on March 29, 2011, April, 6, 2011, and April 7, 2011, by which time market participants expected there was a high likelihood that Rio Tinto would gain control of Riversdale. Dr. Metz does not discuss whether the abnormal returns on any of those dates were positive and statistically significant as I would expect him to do in order to demonstrate that the Riversdale purchase was accretive. However, the files produced by Dr. Metz show that the abnormal returns on March 29, 2011, April 6, 2011, and April 7, 2011 are 1.3 percent, 1.4 percent, and -0.4 percent, respectively, and none of them is statistically significantly different from zero at the five-percent level, the same statistical threshold that Dr. Metz adopted.¹⁵⁸ I also tested whether the cumulative abnormal return across these three days was statistically significant and found that it was not. Given these days appear to have resolved more uncertainty about Rio Tinto gaining control of Riversdale than April 8, 2011, one would expect those days to have positive statistically significant abnormal returns if the market viewed gaining control as accretive as posited by Dr. Metz. That none of the abnormal returns on these three days, either individually or jointly, is statistically significantly different from zero refutes Dr. Metz's conclusion that the market viewed the Riversdale acquisition as accretive.

¹⁵⁷ Metz Report, ¶ 31.

¹⁵⁸ Metz Production, EPROD-SEC-DEF-000000012.xlsx, at tab "ret_SPTR ret_SPMM," cells R84, R90, R91, U84, U90, and U91.

C. Rio Tinto's Abnormal Return on April 8, 2011 Was Not Statistically Significant; Dr. Metz's Conclusion to the Contrary is Driven by His Use of an Inappropriate Industry Index

56. Using his event study analysis, Dr. Metz finds that Rio Tinto's ADR had "a positive abnormal return of 3.0%" on April 8, 2011 that was "statistically significant at well above the 95% confidence level."¹⁵⁹ However as I discuss in more detail below, Dr. Metz's finding of statistical significance on that day is driven by his use of the S&P Metals and Mining Index ("SPMM") as his industry index, which is an inappropriate industry index that does not adequately control for industry factors affecting Rio Tinto such as commodity prices.¹⁶⁰ After using alternative industry indices that better reflect industry factors affecting Rio Tinto, I find that the abnormal return on April 8, 2011 was *not* statistically significant at the 95 percent confidence level (*i.e.*, the absolute value of the abnormal return's *t*-statistic is less than 1.96), and therefore, I conclude that the Rio Tinto-specific news released on April 8, 2011 did not cause the ADR price to move outside of the normal range of random variation and find no evidence that Rio Tinto's acquisition of control of Riversdale on April 8, 2011 caused the ADR price movement that day.¹⁶¹

1. Dr. Metz Uses an Inappropriate Industry Index

57. Dr. Metz claims that there was no "confounding" information, that is, other information released around the same time that could also potentially have an impact on Rio Tinto's ADR price and explain the abnormal return he finds for Rio Tinto's ADR on April 8, 2011.¹⁶² However, he failed to consider that metal prices increased on April 8, 2011, which several news reports noted had driven a general increase in stock prices across the mining sector that day.¹⁶³

¹⁵⁹ Metz Report, ¶ 54.

¹⁶⁰ Metz Report, ¶ 38. The S&P Metals and Mining Index is a modified equal-weight index. As explained by S&P: "[a]t each quarterly rebalancing, stocks are initially equally-weighted" and then the weights are adjusted to: "ensure that there are no individual constituents whose weight in an index exceeds the value that can be traded in a single day for a given theoretical portfolio value." Moreover, "a final adjustment is made to ensure that no stock in the index has a weight greater than 4.5%." S&P, "S&P Metal and Mining Select Industry Index," available at <<https://us.spindices.com/indices/equity/sp-metals-and-mining-select-industry-index>>; S&P, "S&P Select Industry Indices Methodology," May 2019, p. 7.

¹⁶¹ This conclusion accords with Dr. Metz's explanation of the implications of observing an abnormal return with a *t*-statistic with an absolute value less than 1.96, the level associated with statistical significance at the 5 percent level: a *t*-statistic less than 1.96 in absolute value means that "there is no statistical evidence to suggest that anything beyond the usual random variation is affecting Rio Tinto's ADR return..." Metz Report, ¶¶ 48-50.

¹⁶² Metz Report, ¶¶ 54, 61.

¹⁶³ Dr. Metz also cites several of these news reports to support his opinion that the news media attributed Rio Tinto's ADR price increase that day with Rio Tinto's announcement that it had gained control of Riversdale. However, he

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- “Mining stocks performed well on rising metal prices, with Anglo American, Rio Tinto, Xstrata, BHP Billiton and Fresnillo all climbing more than 2 percent.”¹⁶⁴
- “FTSE 100 ends higher, led by heavily-weighted mining stocks, on the back of firm metals prices; Anglo American +3.9%, Rio Tinto +3.2%.”¹⁶⁵
- “European markets advanced Friday, buoyed by a rally in Japanese stocks overnight and solid gains for the mining sector as precious- metal prices rose once again... Gold prices rose once again as a weaker dollar and concerns about inflation led investors to seek refuge in precious metals. Copper and silver prices also advanced.”¹⁶⁶
- “European markets advanced Friday, buoyed by solid gains for the mining sector as metal prices rose once again... Gold prices rose once again as a weaker dollar and concerns about inflation led investors to seek refuge in precious metals. Copper and silver prices also advanced. African Barrick Gold gained 3.4% and Randgold Resources added 2.1%. Silver miner Fresnillo climbed 2.4%.”¹⁶⁷
- “Miners ranked among the top gainers in London’s benchmark index, as gold, silver and copper prices rose sharply. Shares of Anglo American (AAL) rallied nearly 4%, Antofagasta PLC (ANTO) gained 1.9% and Xstrata (XTA) rose 2.8%.”¹⁶⁸

58. In addition, the Metal Bulletin, which publishes frequently cited iron ore price indices, reported on April 8, 2011 that iron ore spot prices, upon which 85 percent of Rio Tinto’s Underlying Earnings in 2011 relied,¹⁶⁹ had increased.¹⁷⁰ Despite the evidence that metals prices—*i.e.*, the prices that would drive the stock prices of Rio Tinto and its peers in the mining industry¹⁷¹—increased on

ignores that these news reports also reported on commodity price increases that boosted the prices of other mining companies and would also be expected to increase Rio Tinto’s ADR price. Metz Report, ¶ 56.

¹⁶⁴ “London stock market closes higher,” *Xinhua News Agency*, April 8, 2011.

¹⁶⁵ “UK Summary: FTSE Closes Higher, Miners Lead,” *Dow Jones International News*, April 8, 2011.

¹⁶⁶ “DJ MARKET COMMENT: European Stock Markets End Mildly Higher,” *Dow Jones International News*, April 8, 2011.

¹⁶⁷ “Miners Drive Europe’s Gains,” *The Wall Street Journal*, April 8, 2011.

¹⁶⁸ “Mining Sector Lead London Stocks Higher,” *MarketWatch*, April 8, 2011.

¹⁶⁹ 85 percent = \$13,267 million / \$15,549 million. See **Exhibit 1**. Equity analysts also note frequently that iron ore prices are the key drivers of Rio Tinto’s stock prices. See, e.g., Stifel, “FY10 production results - upside risk to earnings,” January 18, 2011, p. 1; RBS Strategy, “Iron ore the highlight in 2Q11,” July 15, 2011, p. 1; Baillieu Holst Ltd., “Rio Tinto (RIO),” June 25, 2012, p. 1; Morningstar, “Strong Third Quarter but Rio’s Earnings Asymmetry Still Concerns,” October 18, 2012, pp. 1-2; Goldman Sachs, “Valuation driven by the iron ore price, not writedowns and CEO,” January 17, 2013, p. 1; Credit Suisse, “Increasing accountability & improved optics,” January 18, 2013, p. 1.

¹⁷⁰ “China Steel Wrap: Shanghai rebar up 3% despite short week,” *Metal Bulletin News Alert Service*, April 8, 2011. Hobart Mercury, an Australian newspaper, also reported on rising iron ore prices on April 8, 2011. “Mining boom a boost for juniors,” *Hobart Mercury*, April 8, 2011.

¹⁷¹ As discussed in more detail below, in its 2011 Annual Report, Rio Tinto identified eight “comparator” firms for purposes of performance benchmarking in order to determine certain facets of executive compensation: Alcoa, Anglo American, Barrick Gold, BHP Billiton, Freeport-McMoran, Newmont Mining, Vale do Rio Dolce, and Xstrata. Of these eight companies, four are discussed in the news reports identified above because their stock prices

April 8, 2011, the SPMM Index Dr. Metz uses as his industry index decreased on April 8, 2011 by 0.4 percent.¹⁷² This suggests that Dr. Metz's industry index does not sufficiently control for the factors affecting Rio Tinto and its peers and casts doubt on Dr. Metz's finding that there was a statistically significant positive abnormal return on April 8, 2011.

59. To benchmark its stock performance in order to determine certain facets of executive compensation in 2011, Rio Tinto compared the performance of its securities against the HSBC Global Mining Index.¹⁷³ While Dr. Metz correctly states that: "Rio Tinto Plc compares itself to the HSBC Global Mining Index,"¹⁷⁴ he goes on to state, without any explanation or support, that the: "S&P Metal and Mining Index is an appropriate peer index for the US traded ADR."¹⁷⁵ By implication, he appears to have concluded that the SPMM Index is an appropriate substitute for the HSBC Global Mining Index that Rio Tinto uses as a benchmark for the performance of its stock price to determine certain facets of executive compensation. My review of the SPMM Index's constituents as of April 8, 2011 indicates that the SPMM Index does not appropriately capture the industry effects that Rio Tinto was exposed to during the relevant time period.
60. As an initial matter, the SPMM Index does not include either Rio Tinto or the other large international mining companies that are included in the HSBC Global Mining Index such as Anglo American, Barrick Gold, BHP Billiton, and Vale.¹⁷⁶ Furthermore, the SPMM Index contains a large number of constituents primarily engaged in businesses not directly comparable to Rio Tinto or that do not represent a sizable portion of Rio Tinto's operations, including many that purchase the types of products that Rio Tinto sells, implying that these companies' stock prices are likely to react in the opposite direction to Rio Tinto's ADR price in response to changes in the prices of these products. This mismatch between the SPMM Index and Rio Tinto makes it unlikely that the index

increased on April 8, 2011 in conjunction with rising metals prices: Anglo American, Barrick Gold, BHP Billiton, and Xstrata. *See* Rio Tinto 2011 Annual Report, p. 98.

¹⁷² Metz Report, ¶ 54 n. 38.

¹⁷³ Rio Tinto 2011 Annual Report, p. 98.

¹⁷⁴ Metz Report, ¶ 38 n. 23. The HSBC Global Mining Index is a market capitalization weighted index composed of mining stocks around the world that is calculated daily. HSBC Global Mining Index Fact Sheet, April 30, 2010; HSBC Global Mining Index Fact Sheet, July 31, 2013.

¹⁷⁵ Metz Report, ¶ 38 n. 23.

¹⁷⁶ As discussed in more detail below, Rio Tinto lists these companies as "comparators" for purposes of benchmarking the performance of its stock price to determine certain facets of executive compensation. *See* Rio Tinto Annual Report 2011, p. 98.

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appropriately captures the impact of commodity price changes on Rio Tinto's ADR price when used in Dr. Metz's event study analysis.

61. Specifically, according to the Standard Industrial Classification ("SIC"),¹⁷⁷ Rio Tinto's Major Group code as of April 8, 2011 was "10: Metal Mining."¹⁷⁸ This classification is consistent with **Exhibit 1**, which shows that the majority of Rio Tinto's Underlying Earnings were derived from mining metals including iron, copper, gold, and silver. However, as I show in **Exhibit 4**, only 19 percent (eight out of 43) of the SPM Index's constituents as of April 8, 2011 were in the same Major Group as Rio Tinto. However, most of the remaining constituents were in the Major Group "12: Coal Mining,"¹⁷⁹ which was a relatively small part of Rio Tinto's operations, or in the Major Group "33: Primary Metal Industries," which includes steel manufacturers, aluminium producers,

¹⁷⁷ The SIC is a four-digit numbering system designed to classify companies by industry and is used in various applications. For example, the SEC uses SIC codes to indicate a company's type of business in EDGAR filings, and the Division of Corporation Finance uses SIC codes to assign review responsibility. The first two digits of the SIC code indicate a "Major Group," and the second two digits indicate an "Industry Group" within that Major Group. Rio Tinto's full SIC code is "1000: Metal Mining," indicating its operations include a variety of the more specific industries included in Major Group code 10, e.g., "1011: Iron Ores," "1021: Copper Ores," etc. In my analysis, I group companies by Major Group. See United States Department of Labor, "SIC Division Structure," available at <https://www.osha.gov/pls/imis/sic_manual.html>; United States Securities and Exchange Commission, "Division of Corporation Finance: Standard Industrial Classification (SIC) Code List," available at <<https://www.sec.gov/info/edgar/siccodes.htm>>; United States Department of Labor, "Major Group 10: Metal Mining," available at <https://www.osha.gov/pls/imis/sic_manual.display?id=6&tab=group>.

¹⁷⁸ Companies in this Major Group are: "primarily engaged in mining, developing mines, or exploring for metallic minerals (ores). These ores are valued chiefly for the metals contained, to be recovered for use as such or as constituents of alloys, chemicals, pigments or other products. This major group also includes all ore dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately. These include mills which crush, grind, wash, dry, sinter, calcine, or leach ore, or perform gravity separation or flotation operations. Magnesite and brucite operations are classified in Industry 1459, and crushed dolomite operations are classified in Industry 1422. Smelters and refineries are classified in Manufacturing, Major Group 33, and establishments engaged in producing primary magnesium metal are classified in Manufacturing, Industry 3339. The operation of brine wells or sea water plants for the production of magnesium is classified in Manufacturing, Major Group 28." See United States Department of Labor, "Major Group 10: Metal Mining," available at <https://www.osha.gov/pls/imis/sic_manual.display?id=6&tab=group>.

¹⁷⁹ Companies in this Major Group are: "primarily engaged in producing bituminous coal, anthracite, and lignite. Included are mining operations and preparation plants (also known as cleaning plants and washeries), whether or not such plants are operated in conjunction with mine sites. The production of coal fuel briquettes and packaged fuel is classified in Manufacturing, Industry 2999. Establishments primarily engaged in the production of gas and hydrocarbon liquids from coal at the mine site are classified in Major Group 13." See United States Department of Labor, "Major Group 12: Coal Mining," available at <https://www.osha.gov/pls/imis/sic_manual.display?id=7&tab=group>.

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and manufacturers of metal products such as titanium and zinc,¹⁸⁰ which collectively were either a small part of or not at all related to Rio Tinto's operations.

62. Some of these companies, like steel manufacturers (eight of the constituents or the same number of constituents that were in Rio Tinto's Major Group),¹⁸¹ use raw materials such as iron ore and coke in their production and therefore an increase in the price of iron ore or other commodities may negatively affect their earnings and their stock prices. For example, as I show in **Appendix C.4**, United States Steel Corporation, one of the SPMI Index constituents, describes itself as "an integrated steel producer of flat-rolled and tubular products with major production operations in North America and Europe," and noted in its 2011 Form 10-K that it is "exposed to price risk related to the purchase, production or sale of coal, coke, natural gas, steel scrap, iron ore and pellets, and zinc, tin and other nonferrous metals used as raw materials."¹⁸² Other companies in the SPMI Index that are in the Primary Metal Industries Major Group similarly describe their businesses as manufacturing finished metal products, as opposed to mining raw materials, as I show in **Appendix C.4** (e.g., AK Steel Holding Corporation, Allegheny Technologies Inc., Nucor Corporation, Steel Dynamics Inc., and Worthington Industries, Inc.), as do companies such as Commercial Metals Company and Reliance Steel & Aluminum Company in the "50: Wholesale Trade-durable Goods" Major Group.¹⁸³ In other words, an increase in the prices of raw materials such as coal and iron ore would be likely to increase the costs of these companies, decrease their earnings, and therefore decrease their stock prices, but would increase Rio Tinto's revenue, earnings, and ADR price. As a result, the stock price movements of many of the companies in the SPMI Index do not provide adequate controls for the industry-wide factors affecting Rio Tinto, as their stock prices are likely to react in the opposite direction to Rio Tinto's ADR price in response to fluctuations in commodity prices. Indeed, all eight steel manufacturers included in the SPMI Index experienced stock price

¹⁸⁰ Companies in this Major Group are: "engaged in smelting and refining ferrous and nonferrous metals from ore, pig, or scrap; in rolling, drawing, and alloying metals; in manufacturing castings and other basic metal products; and in manufacturing nails, spikes, and insulated wire and cable. This major group includes the production of coke. Establishments primarily engaged in manufacturing metal forgings or stampings are classified in Industry Group 346." See United States Department of Labor, "Major Group 33: Primary Metal Industries," available at <https://www.osha.gov/pls/imis/sic_manual.display?id=26&tab=group>.

¹⁸¹ Eight of the constituents have SIC codes that start with 331, which is "Steel Works, Blast Furnaces, And Rolling And Finishing Mills." See United States Department of Labor, "Major Group 33: Primary Metal Industries," available at <https://www.osha.gov/pls/imis/sic_manual.display?id=26&tab=group>.

¹⁸² United States Steel Corporation, Form 10-K for the Fiscal Year Ended December 31, 2011, pp. 4, 84.

¹⁸³ Companies in this Major Group include: "establishments primarily engaged in the wholesale distribution of durable goods." See United States Department of Labor, "Major Group 50: Wholesale Trade-durable Goods," available at <https://www.osha.gov/pls/imis/sic_manual.display?id=43&tab=group>.

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declines on April 8, 2011 of between 1.1 percent and 2.8 percent, and therefore steel manufactures contributed to the index's negative return that day.

63. Thus, Dr. Metz's event study depends on an index with a high concentration of companies whose operations differ from Rio Tinto's, and he has not provided evidence that his industry index adequately controls for industry factors affecting Rio Tinto such as commodity prices. Even if the companies in his index are sensitive to the same factors as Rio Tinto, it is likely that many of them would react in different ways to the same factors because of the differences in their lines of business, making them poor controls for the industry factors affecting Rio Tinto in an event study analysis.

2. *The Abnormal Return on April 8, 2011 is Not Statistically Significant When Using Alternative Industry Indices That Better Predict Rio Tinto's ADR Price than Dr. Metz's Industry Index*

64. To analyze Rio Tinto's abnormal return on April 8, 2011 better and to illustrate the problems with Dr. Metz's choice of industry index, I reran an event study analysis using two alternative industry indices to the SPMM Index in the Market Model.¹⁸⁴
65. First, I use the HSBC Global Mining Index, which, as I discussed above, was used by Rio Tinto as a benchmark for its stock performance in order to determine certain facets of executive compensation in 2011.¹⁸⁵ As I show in **Exhibit 4**, unlike the SPMM index, the ten largest companies in the HSBC Global Mining Index as of April 2010 and July 2013 are all Metal Mining companies like Rio Tinto (*i.e.*, they are in the same Major Group as Rio Tinto).¹⁸⁶ Substituting the HSBC

¹⁸⁴ Besides using alternative market indices, I make two changes to Dr. Metz's Market Model specification. First, I use logarithmic returns rather than the percent returns used by Dr. Metz. Second, unlike Dr. Metz, I do not drop earnings announcement dates or the dates when quarterly operations review reports were released from my market model (I note that the Metz Report states that earnings announcement dates are excluded from his estimation periods, but fails to divulge that dates on which quarterly operations review reports were released were also excluded). See Metz Report ¶ 44 n. 28. On all of my exhibits that show event study results, I include Dr. Metz's results as well as results from a Market Model using the SPMM Index, logarithmic returns, and not dropping earnings announcement dates ("Modified Metz Model").

I also used these alternative models to measure the abnormal returns on March 29, 2011, April 6, 2011, and April 7, 2011 and consistent with the analysis above, found that none of the abnormal returns either jointly or collectively were statistically significantly different from zero at the five-percent level.

¹⁸⁵ Rio Tinto 2011 Annual Report, p. 98.

¹⁸⁶ The HSBC Global Mining Index is a market capitalization weighted index. According to the fact sheets for the index as of April 2010 and July 2013, the largest ten companies in the index account for 50.5 percent and 54.2 percent of the index as of April 2010 and as of July 2013, respectively. While constituent information as of April 8, 2011 is not available to me, I note that the largest ten companies as of April 2010 and as of July 2013 are the same

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Global Mining Index into Dr. Metz's event study model, I find that the market regression model with the HSBC Global Mining Index has a higher R^2 than Dr. Metz's model using the SPMI Index (0.808 versus 0.673, *see Exhibit 5*).¹⁸⁷ The increase in R^2 when using the HSBC Global Mining Index rather than the SPMI Index means that this alternative industry index better explains the industry-wide factors driving daily variation in Rio Tinto's ADR price than does the SPMI Index used by Dr. Metz. After explaining better the industry-wide price movements using the HSBC Global Mining Index, I estimate an abnormal return on April 8, 2011 of 1.25 percent, which is less than half the abnormal return calculated by Dr. Metz (*see Exhibit 5*).¹⁸⁸ This abnormal return is not statistically significantly different from zero at the five-percent level, the same statistical threshold that Dr. Metz adopted.

except that Xstrata was replaced with Glencore Xstrata in 2013 due to its merger with Glencore. For purposes of calculating the composition of the largest ten companies in the HSBC Global Mining Index in **Exhibit 4**, I exclude Rio Tinto, Xstrata and Glencore Xstrata (because the SIC information for Xstrata is not available and Glencore Xstrata is classified as 8880 - unknown); I also count BHP Billiton PLC and BHP Billiton Ltd. as a single entity to avoid duplication. Although Xstrata's SIC code was not available, it was one of the world's largest diversified mining companies, whose primary products include copper, coal, and nickel. After the merger, the combined company Glencore Xstrata describes itself as a: "leading integrated producer and maker of commodities." *See* HSBC Global Mining Index Fact Sheet, April 30, 2010; HSBC Global Mining Index Fact Sheet, July 31, 2013; Xstrata, 2011 Annual Report, March 15, 2012, pp. xi, vi, vii; GlencoreXstrata, 2013 Annual Report, March 17, 2014, p. 1.

¹⁸⁷ R^2 measures the share of the variation in the dependent variable (Rio Tinto's ADR price) that can be explained by the variation in the independent variables (the market and industry indices). For example, a high R^2 of 0.9 would mean that 90 percent (or nearly all) of the variation in Rio Tinto's ADR returns across the estimation period (here October 18, 2010 to April 7, 2011) can be explained by the market and industry indices' returns. A low R^2 of 0.1, by contrast, would mean that 10 percent (or very little) of the variation in Rio Tinto's ADR returns across the estimation period could be explained by the market and industry indices' returns, and would imply that the two indices provide little insight into why Rio Tinto's ADR price moves. Adjusted R^2 , the metric I show in **Exhibit 5**, is a modified estimation of R^2 that takes into account the number of independent variables included in the model. *See* Wooldridge, J., *Introductory Econometrics*, South-Western College Publishing, 2000, pp. 39-40, 192-193.

¹⁸⁸ The HSBC Global Mining Index is composed of securities trading on markets around the world and is calculated once per day. Therefore, it may include nonsynchronous price movements, e.g., the price of one security may be based on its closing price 18 hours prior, the price of another security may be based on its closing price 12 hours prior, and a third security's price may be based on its closing price 6 hours prior. Consequently the third security's price may reflect information not available when the closing prices for the other two securities were set. To determine if this issue impacts my results, I re-ran each of the regressions using the HSBC Global Mining Index provided in my report (in **Exhibit 5**, **Exhibit 8**, **Exhibit 12**, and **Exhibit 15**) adding a lead and a lag of the index to the regression (*i.e.*, the value of the HSBC Global Mining Index one day earlier and the value of the HSBC Global Mining Index one day later). Academic researchers have used this approach to deal with nonsynchronous trading when comparing the stock price in one country to another country's market index with different trading hours. *See*, for example, Baruch, S., A. Karolyi, and M. Lemmon, "Multimarket Trading and Liquidity: Theory and Evidence," *Journal of Finance*, 42(5), October 2007, 2169-2200, at p. 2185. Including the lead and lag of the HSBC Global Mining Index did not change my conclusions.

66. I also consider an alternative industry index composed of the eight “comparator” (a.k.a. peer) firms identified by Rio Tinto in its 2011 Annual Report for purposes of benchmarking performance to determine certain facets of executive compensation (the “Equal Weighted Peer Index”).¹⁸⁹ To create this index, I equal-weight the returns on the equity securities traded in the United States of the eight peer firms.¹⁹⁰ Similar to my finding with the HSBC Global Mining Index, replacing the SPMI Index with the Equal Weighted Peer Index into Dr. Metz’s event study model increases the R^2 of the model from 0.673 to 0.814, indicating that the Equal Weighted Peer Index is also better at explaining the industry-wide factors that influence the daily movements in Rio Tinto’s ADR price than the SPMI Index used by Dr. Metz. The close relationship between the Equal Weighted Peer Index and Rio Tinto’s ADR price can also be seen in **Exhibit 3**, which shows the daily prices of both the Equal Weighted Peer Index and Rio Tinto’s ADR from December 1, 2010 to March 28, 2013. Using the Equal Weighted Peer Index reduces the abnormal return on April 8, 2011 from 2.96 percent, as calculated by Dr. Metz using the SPMI Index, to 1.66 percent and this abnormal return is not statistically significantly different from zero at the five-percent level (*see Exhibit 5*).
67. To summarize, both alternative indices have constituents more comparable to Rio Tinto than those in the SPMI Index and result in smaller abnormal returns on April 8, 2011 that are *not* statistically significantly different from zero at the five-percent level. Therefore, I conclude that the Rio Tinto-specific news released on April 8, 2011 did not cause the ADR price to move outside of the normal range of random variation and find no evidence that Rio Tinto’s acquisition of control of Riversdale on April 8, 2011 caused the ADR price movement that day.¹⁹¹ The better fit of the models using the alternative industry indices relative to Dr. Metz’s index provides further evidence that Dr.

¹⁸⁹ In 2011, Rio Tinto used the performance of the HSBC Global Mining Index and the performance of the group of eight peer companies to determine different facets of executive compensation. The eight peer companies are Alcoa, Anglo American, Barrick Gold, BHP Billiton, Freeport-McMoran, Newmont Mining, Vale do Rio Dolce, and Xstrata. Seven of the eight comparator companies are in the same Major Group as Rio Tinto (10 - Metal Mining). The SIC code for Xstrata is not available; however, as I noted above, its primary businesses, as described in its 2011 Annual Report, would likely qualify it to be included in the same Major Group. All but Alcoa and Newmont Mining are among the ten largest companies in the HSBC Global Mining Index. *See* Rio Tinto 2011 Annual Report, p. 98; Xstrata, 2011 Annual Report, March 15, 2012, pp. xi, vi, vii; **Exhibit 4**.

¹⁹⁰ For firms without U.S. listed equity securities, I use the returns of their U.S. ADR securities. For BHP Billiton, which has two ADR securities traded in the U.S. (one each for BHP Billiton PLC and BHP Billiton Ltd.), I assign each ADR a half-weight.

¹⁹¹ This conclusion accords with Dr. Metz’s explanation of the implications of observing an abnormal return with a t -statistic with an absolute value less than 1.96: a t -statistic less than 1.96 in absolute value means that: “there is no statistical evidence to suggest that anything beyond the usual random variation is affecting Rio Tinto’s ADR return...” Metz Report, ¶¶ 48-50.

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Metz's chosen SPMM Index does not appropriately control for the industry effects and leads to his erroneous conclusions about the statistical significance of the April 8, 2011 abnormal return. These results also undermine Dr. Metz's conclusion that Rio Tinto's ADR had a "statistically significantly positive excess return in the ADR price that day" and provide further evidence that Dr. Metz's conclusions that the Riversdale acquisition was "accretive" and that the "market believed that these assets had upside for Rio Tinto" are incorrect.¹⁹²

D. Attributing the Abnormal Return Calculated by Dr. Metz to the Value to Rio Tinto of Acquiring Control of Riversdale Yields Nonsensical Results and Runs Counter to Valuation Principles

68. Even assuming that Rio Tinto's ADR had a statistically significantly different from zero positive return on April 8, 2011, Dr. Metz failed to perform any financial or valuation analysis to support his conclusion that the positive abnormal return he calculated on April 8, 2011 was in: "reaction to the news that Rio Tinto had finally succeeded in acquiring control of Riversdale."¹⁹³ Based on my financial analysis, Dr. Metz's conclusion implies a value for Rio Tinto's acquisition of control of Riversdale that is nonsensical from a valuation perspective.
69. **Exhibit 6** shows that the 3.0 percent abnormal return calculated by Dr. Metz for Rio Tinto's ADRs on April 8, 2011 implies that Rio Tinto's market value increased by approximately \$4.2 billion on April 8, 2011, when the company succeeded in acquiring control of Riversdale. Given that Rio Tinto had committed approximately \$2 billion to acquire its controlling interest,¹⁹⁴ Dr. Metz's analysis implies that by merely gaining control, the market value of its interest in Riversdale would more than triple.¹⁹⁵ There is no basis under valuation principles that would explain why Rio Tinto obtaining a controlling stake in Riversdale would be so valuable. If control of Riversdale was this valuable relative to the price Rio Tinto paid, I would expect other mining companies comparable to Rio Tinto to have bid up the Riversdale assets in April 2011 to attempt to capture this "accretive

¹⁹² Metz Report, ¶ 16.

¹⁹³ Metz Report, ¶ 61.

¹⁹⁴ "Rio Takes Control of Riversdale," *AFR*, April 9, 2011.

¹⁹⁵ This calculation indicates that the value of the \$2 billion investment in Riversdale increased by \$4.2 billion to a total of \$6.2 billion on April 8 2011, representing more than triple the amount of the \$2 billion investment.

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value.” However, Dr. Metz conceded that he: “was unable to find evidence that another bidder actually emerged.”¹⁹⁶

70. Considering that Rio Tinto already owned 49.49 percent of the company a single day prior to gaining control and market participants’ expectation on April 7, 2011 that it was nearly certain that Rio Tinto would soon acquire control of Riversdale further demonstrates the unreasonableness of Dr. Metz’s conclusion.¹⁹⁷ Given these facts, \$4.2 billion only measures the incremental change in the market’s expectation that Rio Tinto would gain control of Riversdale from “nearly certain” on April 7, 2011 to “certain” on April 8, 2011 and therefore the full value to Rio Tinto of control of Riversdale that is implied by Dr. Metz’s analysis is much larger than \$4.2 billion.
71. Abnormal returns measure the impact on a security’s price of new information. The available news and analysts’ reports described above suggest that the new information on April 8, 2011 was the change in Rio Tinto’s ownership share from 49.49 percent to above 50 percent and the change in probability that Rio Tinto would gain control of Riversdale from “nearly certain” to “certain.” Thus, the \$4.2 billion change in Rio Tinto’s market value on April 8, 2011 implied by the abnormal return that day does not measure the full value of achieving control of Riversdale, which would only occur if the announcement was a complete surprise, and instead measures the portion of the value of control associated with the change in the market’s expectations, which would likely be substantially less than the full value of control, given market participants “near certainty” on this issue.
72. On **Exhibit 7**, I show, for example, that if the April 8, 2011 announcement and corresponding abnormal return reflected an increase in the market’s expectation of the probability that Rio Tinto would gain control from 90 percent to 100 percent, the total value of control implied by Dr. Metz’s analysis would be \$42.3 billion, with all but \$4.2 billion already incorporated in Rio Tinto’s value prior to April 8, 2011.¹⁹⁸ This implied increase would be absurd on its face and imply a value of

¹⁹⁶ See Metz Report, ¶ 57 n. 44.

¹⁹⁷ See **Section VI.A**. See Metz Report, ¶ 57 n. 44.

¹⁹⁸ If the \$4.2 billion abnormal increase in market value on April 8, 2011 represented the value associated with an increase from 90 percent to 100 percent in the probability that Rio Tinto would succeed in gaining control, then as of April 7, 2011, Rio Tinto’s market value would have included \$38.1 billion attributable to the 90 percent likelihood that Rio Tinto would gain control. This would have represented approximately 27 percent of Rio Tinto’s total market capitalization. There is no plausible reason to believe that control to Rio Tinto would be so valuable given that Riversdale’s market value was only approximately \$4 billion at the time.

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control that was approximately ten times larger than Riversdale's market capitalization.¹⁹⁹ This result would also imply that by merely gaining control, the market value of Rio Tinto's interest in Riversdale would increase more than twenty fold, another absurd result.²⁰⁰ Thus, even if Rio Tinto's ADR had a statistically significantly different from zero abnormal return on April 8, 2011, contrary to Dr. Metz's conclusion, valuation principles point to it being attributable to a factor other than Rio Tinto gaining control of Riversdale.

VII. THE RTCM IMPAIRMENT DISCLOSURE DID NOT HAVE A MEASURABLE NEGATIVE IMPACT ON RIO TINTO'S ADR PRICE AND DR. METZ'S CONCLUSIONS TO THE CONTRARY BASED ON "CONFOUNDING POSITIVE INFORMATION" ARE SPECULATIVE AND UNRELIABLE

73. As I discussed in **Section V.D** and as the Metz Report discussed, on January 17, 2013, Rio Tinto announced that it expected to impair the value of RTCM by approximately \$3 billion.²⁰¹ The disclosure further stated:

In Mozambique, the development of infrastructure to support the coal assets is more challenging than Rio Tinto originally anticipated. Rio Tinto sought to transport coal by barge along the Zambezi River, but this option did not receive formal approvals.

These infrastructure constraints, combined with a downward revision to estimates of recoverable coking coal volumes on the RTCM tenements, have led to a reassessment of the overall scale and ramp up schedule of RTCM, and consequently to the impairment announced today.²⁰²

74. At the same time that Rio Tinto made the RTCM Impairment Disclosure, the company also disclosed two other pieces of "confounding information"—that is, other information released around the same time that could also potentially have an impact on Rio Tinto's ADR price: (1) the

Exhibit 7 also shows the implied value of control under alternative assumptions of the market's expectation as of April 7, 2011 of the probability that Rio Tinto would gain control of Riversdale ranging from 0 percent to 90 percent.

¹⁹⁹ $10.3 = \$42.3 \text{ billion} / \4.12 billion . Riversdale's market capitalization on April 8, 2011 was US\$4.12 billion according to Bloomberg.

²⁰⁰ That is, adding Rio Tinto's \$2 billion investment as of April 8, 2011 to the estimated \$42.3 billion value of control implies that the total value of Rio Tinto's stake in Riversdale was \$44.3 billion, representing more than 20 times the amount of the \$2 billion investment.

²⁰¹ Metz Report, ¶ 62; Rio Tinto Media Release, *Rio Tinto impairments and management changes*, January 17, 2013, p.1.

²⁰² Rio Tinto Media Release, *Rio Tinto impairments and management changes*, January 17, 2013, p. 2.

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approximately \$11 billion impairment of Rio Tinto's aluminium assets (mainly Alcan)²⁰³ and (2) management changes including the replacement of Mr. Albanese by Mr. Walsh (formerly the chief executive of Rio Tinto's iron ore division) as CEO and the departure of Mr. Ritchie, chief executive of the Energy division.²⁰⁴

75. As I show in **Exhibit 8**, the abnormal return on Rio Tinto's ADRs on January 17, 2013 following these disclosures was negative but not statistically significantly different from zero, and this result holds using both of the industry indices I propose above (*i.e.*, the HSBC Global Mining Index and the Equal Weighted Peer Index).²⁰⁵ Based on this result, as well as the evidence I review below from company disclosures, news reports, analysts' reports, and academic studies, I conclude that the RTCM Impairment Disclosure did not have a measurable negative impact on Rio Tinto's ADR price.
76. Despite also observing that the abnormal return on Rio Tinto's ADRs on January 17, 2013 was not statistically significantly different from zero, Dr. Metz comes to the opposite conclusion that: "the write-down of the Riversdale asset, by itself, could well have put significant negative pressure on the ADR price."²⁰⁶ Dr. Metz reaches this conclusion by claiming that "this lack of statistical significance was likely due to confounding positive information," in particular the announced changes in Rio Tinto's management: "released at the same time which may have countered a negative market reaction to the Riversdale write-off."²⁰⁷ In order to prove such a theory, one would need to show that the RTCM Impairment Disclosure would be expected to cause a statistically significant negative return that was offset by a statistically significant positive return of a similar

²⁰³ Rio Tinto acquired Canadian aluminium producer Alcan Inc. in 2007 for \$38.7 billion. Prior to the \$11 billion impairment announced on January 17, 2013, Rio Tinto had taken impairments totaling approximately \$14.3 billion related to Alcan. This consisted of impairments of \$6.6 billion in 2008, \$500 million in 2009, \$589 million in 2010, and \$6.6 billion in 2011. *See* Rio Tinto, 2007 Annual Report, March 16, 2008, p. 15; Rio Tinto, 2008 Annual Report, March 16, 2009, p. 92; Rio Tinto, 2009 Annual Report, March 15, 2010, p. 157; Rio Tinto 2010 Annual Report, p. 184; Rio Tinto 2011 Annual Report, p. 20.

²⁰⁴ Rio Tinto Media Release, *Rio Tinto impairments and management changes*, January 17, 2013, p. 1.

²⁰⁵ Unlike his flawed analysis of the ADR's return on April 8, 2011, which was sensitive to the market model specification, Dr. Metz's finding of a lack of a statistically significant negative return on January 17, 2013 holds under alternative specifications. I note that the abnormal returns I calculate that day using the alternative industry indices result in abnormal returns of -0.6 percent and -0.3 percent using the HSBC Global Mining Index and the Equal Weighted Peer Index, respectively, which are smaller than Dr. Metz's estimated abnormal return of -1.2 percent.

²⁰⁶ Metz Report, ¶¶ 62, 86.

²⁰⁷ Metz Report, ¶¶ 17-18, 63.

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magnitude associated with the change in management. However, Dr. Metz's opinion does not go that far. He merely concludes that the RTCM Impairment Announcement "*could well*" have caused a decline in the ADR price and that the news about the management change "*may* have countered" that decline.²⁰⁸

77. Below, I demonstrate that Dr. Metz's conclusion that a negative price movement in Rio Tinto's ADR associated with the RTCM Impairment Disclosure may have been offset by a positive price movement associated with the management change announcement is speculative and unreliable because it is based on an evaluation of a subset of the available information. My review and analysis of the available evidence shows that the RTCM Impairment Disclosure did not have a measurable negative impact on Rio Tinto's ADR price and that the management change announcement did not have a measurable positive impact on Rio Tinto's ADR price. In particular, I find that in evaluating the market reaction to the RTCM Impairment Disclosure, Dr. Metz failed to consider and assess numerous sources of information that contradict his suppositions: (1) Rio Tinto's disclosures of the risks in developing RTCM prior to the RTCM Impairment Disclosure, (2) reporting by the news media on the transportation problems constraining the development of RTCM and the expected and actual production from RTCM, (3) equity analysts' reports prior to the HY 2012 Earnings Release and RTCM Impairment Disclosure, (4) certain commentary by analysts after the RTCM Impairment Disclosure that contradicts his opinions, and (5) academic research related to non-core earnings and the impact of impairments on stock prices. Thus, Dr. Metz's failure to analyze all of the available information leads him to an erroneous conclusion. Regarding the market reaction to the management change announcement, Dr. Metz overstated the positivity of analysts' reactions to the change in Rio Tinto's management and misstated the findings of academic studies regarding the stock price impacts of management changes of the type at-issue in this matter.

A. Dr. Metz's Conclusion that the RTCM Impairment Disclosure: "Could Well Have Put Significant Negative Pressure on the ADR Price" Is Speculative and Unreliable

78. As I discuss in this section, my analysis of the company disclosures, as well as the available news reports and analysts' reports, demonstrates that prior to the August 2012 HY 2012 Earnings Release and the January 2013 RTCM Impairment Disclosure, information regarding risks associated with RTCM was publicly available and those risks were acknowledged by market participants. While

²⁰⁸ Metz Report, ¶¶ 63, 86 (emphasis added). I also note that Dr. Metz concedes the \$11 billion impairment of Rio Tinto's aluminium assets could have been: "an additional source of downward pressure on the ADR price." See Metz Report, ¶ 76.

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Dr. Metz acknowledged that the “market was aware that there could be logistical challenges in transporting the coal from Riversdale,”²⁰⁹ he nonetheless failed to perform a similar assessment of the level of market knowledge about the other risks related to RTCM prior to the August 2012 HY 2012 Earnings Release and the January 2013 RTCM Impairment Disclosure. As I discussed above in relation to the April 8, 2011 announcement that Rio Tinto had gained control of Riversdale, in order to assess the cause of an abnormal return (or lack thereof) on a particular day, it is necessary to identify the incremental information released on that particular day. Dr. Metz, in fact, acknowledges that “it is [] possible that some of the weaknesses of the Riversdale mining assets were already known to the market by the time of the official write-down” and that this “would tend to limit the degree of price reaction on January 17, 2013,”²¹⁰ yet fails to analyze whether this was the case in his analysis.²¹¹ I therefore disagree with Dr. Metz’s speculative conclusion that the RTCM Impairment Disclosure: “put significant negative pressure on the ADR price.”²¹²

79. Specifically, my review and analysis of available evidence shows that by the time the potential acquisition of RTCM was announced, market participants were aware that although the Moatize Basin in Mozambique had the potential to be a major source of premium coking coal, extracting and exporting the coal in a profitable manner would be risky. In particular, market participants recognized the limited infrastructure in Mozambique, which restrained the ability to move coal from the Moatize Basin to the coast and load it into ocean-going vessels for export, as a challenge of exploiting coal from the region. Building out needed infrastructure would potentially cost billions of dollars, and it was not clear what the most cost-effective solution(s) would be for Rio Tinto. Market participants also flagged the potential for sovereign risk, particularly in relation to the development of infrastructure. Indeed, throughout 2011 and 2012, analysts and the news media frequently acknowledged the difficulties Rio Tinto experienced in attempting to develop an infrastructure to export coal from RTCM, including delays in upgrades to the existing rail line and the rejection of the company’s barging plan by the government of Mozambique.
80. Additionally, RTCM was an early-stage development project—the Benga mine did not begin production until early 2012, the Zambeze mine was undeveloped, and Tete East was unexplored—

²⁰⁹ Metz Report, ¶ 69.

²¹⁰ Metz Report, ¶ 18.

²¹¹ Metz Report, ¶¶ 62, 86.

²¹² Metz Report, ¶¶ 62, 86.

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and therefore there were risks related to the quantity and quality of the coal that would ultimately be produced. As Rio Tinto began disclosing information regarding RTCM's production and resources, analysts acknowledged these disclosures—recognizing that the quantity of resources and reserves reported by Rio Tinto in March 2012 was lower than Riversdale's prior forecast in 2010 (although still sufficient to support the 60 Mtpa production target for over 30 years),²¹³ that production was delayed relative to initial forecasts, and that the company had revised its production targets.

81. My review of analysts' reports also demonstrates that multiple analysts were of the view, prior to the HY 2012 Earnings Release, that the market placed little value on RTCM because of the risks associated with its development. In other words, regardless of whether the market initially viewed the acquisition as accretive on April 8, 2011, as Dr. Metz incorrectly claims, analysts' reports establish that by mid-2012, multiple analysts were of the belief that the market was placing little to no value on the RTCM assets. This view is consistent with the reactions of analysts following the RTCM Impairment Disclosure. As I demonstrate through my analysis of the analysts' reports available to me, because analysts understood the risks associated with RTCM, the RTCM Impairment Disclosure did not negatively affect most analysts' opinions of or target prices for Rio Tinto. These reports, when reviewed collectively, demonstrate that Dr. Metz overstates the extent to which: "analysts reacted negatively to the Riversdale write-off."²¹⁴
82. The lack of a negative reaction to the RTCM Impairment Disclosure is also consistent with academic research related to equity analysts' evaluation of reported earnings, which Dr. Metz failed to acknowledge. This research demonstrates that "Street" earnings, which exclude one-time charges such as impairments, are the measure of earnings that is relied on by equity analysts and investors and is a primary determinant of stock prices. As Rio Tinto's "Street" earnings were unaffected by the impairment of RTCM, this research is consistent with my finding that Rio Tinto's ADR price was unaffected by the RTCM impairment.
83. To summarize, the available evidence from company disclosures, news reports, analysts' reports, and academic studies reveals that the RTCM Impairment Disclosure did not have a measurable

²¹³ See **Appendix C.7**, e.g., CLSA Asia Pacific Markets, "No river for Riversdale," March 19, 2012, pp. 1-2; Deutsche Bank, "The Big 5," April 24, 2012, p. 71.

²¹⁴ Metz Report, § VIII.A.

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negative impact on Rio Tinto's ADR price and refutes Dr. Metz's conclusion that the RTCM Impairment Disclosure: "could well have put significant negative pressure on the ADR price."²¹⁵

I. Rio Tinto Disclosed the Risks in Developing RTCM Following the RTCM Acquisition

84. Following the acquisition of RTCM (completed on August 1, 2011), Rio Tinto disclosed a variety of details about RTCM, including evolving risks in developing these assets, to investors in company filings, during earnings calls, and at investor seminars.²¹⁶ However, the Metz Report fails to assess or acknowledge these disclosures when assessing the market's reaction to the RTCM Impairment Disclosure, despite equity analysts acknowledging the disclosures in their reports. For example, at a September 20, 2011 investor seminar, the company disclosed, among other details, that: "[t]he project's full potential remains under investigation"²¹⁷ and that: "[l]ogistics will be the key enabler for the project pipeline. We will need to upgrade existing capacity, implement greenfield port and rail solutions, and we are investigating barging capacity."²¹⁸ In January 2012, the company issued a press release disclosing that the first coal shipment from Benga was delayed until the end of the first quarter of 2012 due to: "logistical constraints and upgrade work on the Sena railway line."²¹⁹ Rio Tinto further disclosed in April 2012 that the first coal shipment would be delayed until the middle of the second quarter of 2012.²²⁰ As 2012 progressed, Rio Tinto made several statements in which it disclosed that transportation constraints were limiting the ability of the company to grow production and that the development of infrastructure was likely to be delayed relative to the initial timeline due to internal capital constraints.²²¹
85. Rio Tinto also disclosed for the first time its estimates regarding certain of RTCM's reserves and resources²²² and quarterly updates on the production from Benga attributable to Rio Tinto. At the

²¹⁵ Metz Report, ¶ 86.

²¹⁶ I provide a timeline summary of these RTCM-related disclosures in **Appendix C.5**.

²¹⁷ See **Appendix C.5**, Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 7.

²¹⁸ See **Appendix C.5**, Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC, p. 7.

²¹⁹ See **Appendix C.5**, Rio Tinto Media Release, *Fourth quarter 2011 operations review*, January 17, 2012, p. 5.

²²⁰ See **Appendix C.5**, Rio Tinto Media Release, *First quarter 2012 operations review*, April 17, 2012, p. 5.

²²¹ See **Appendix C.5**, Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, pp. 5, 23; Rio Tinto Media Release, *Third quarter 2012 operations review*, October 16, 2012, p. 5; Rio Tinto Investor Seminar November 2012 - Script, November 29, 2012, p. 35.

²²² See **Appendix C.5**, Rio Tinto 2011 Annual Report, pp. 49, 52.

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HY 2012 Earnings Release, Rio Tinto revealed that production from Benga as of August 8, 2012 was 123 kt of thermal coal (80 kt attributable to Rio Tinto) and 130 kt of coking coal (85 kt attributable to Rio Tinto) and revised downward its total coking coal production target for 2012 from 1,000 kt to 400 kt.²²³ Rio Tinto's third and fourth quarter 2012 operations review reports, released on October 16, 2012 and January 15, 2013, reported quarterly coking and thermal coal production from Benga of 134 kt and 173 kt respectively for the third quarter and 154 kt and 246 kt respectively for the fourth quarter, for a total of 289 kt of coking coal and 419 kt of thermal coal for 2012.²²⁴

2. *The News Media Reported on the Transportation Problems Constraining the Development of RTCM, as well as RTCM's Expected and Actual Production*

86. Because information regarding the transportation infrastructure in Mozambique was publicly available and because company officials make statements to the news media that may provide additional information to the public, it is also necessary to assess reports from the news media to assess the incremental information provided by the RTCM Impairment Disclosure to market participants. To assess the publicly available information regarding RTCM prior to the RTCM Impairment Disclosure, I performed searches of *Factiva* and *Bloomberg* for news reports published between August 1, 2011 and January 16, 2013.²²⁵ I summarize these news reports in **Appendix C.6**.²²⁶ My review demonstrates that the news media reported regularly on the transportation problems constraining the development of RTCM and the company's progress in producing coal at the Benga mine and therefore this information was known to market participants. However,

²²³ See **Appendix C.5**, Rio Tinto Investor Seminar Slides, September 20, 2011, p. 27; Rio Tinto Media Release, *Rio Tinto announces first half underlying earnings of \$5.2 billion*, August 8, 2012, p. 18; Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, pp. 5, 23.

²²⁴ Of this reported production, 65 percent was attributable to Rio Tinto or 87 kt and 112 kt coking and thermal coal for the third quarter and 100 kt and 160 kt of coking and thermal coal for the fourth quarter, and a total of 188 kt and 272 kt of coking coal and thermal coal for 2012. See **Appendix C.5**, Rio Tinto Media Release, *Third quarter 2012 operations review*, October 16, 2012, p. 21; Rio Tinto Media Release, *Fourth quarter 2012 operations review*, January 15, 2013, p. 21.

²²⁵ In particular, I obtained and reviewed news reports with the keywords "Mozambique" and ("coal" or "barging" or "Sena" or "rail" or "infrastructure" or "Benga" or "Zambeze" or "Zambezi"), which yielded 662 news reports from these sources. Some of the 662 news reports contain the same information but are published by different sources.

²²⁶ I found that 108 of the 662 news reports I reviewed contain commentary on RTCM and infrastructure, project development, coal production, coal exports, or resources and reserves. **Appendix C.6** includes quotations from 66 of these reports; 42 additional news reports were found to have duplicative coverage of events and information as I document in the notes to the appendix. I exclude news reports reporting solely on the financial details of the Riversdale purchase.

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beyond making a cursory statement that “the market was aware that there could be logistical challenges in transporting the coal from Riversdale” based on three news reports related to the Mozambique government’s rejection of Rio Tinto’s barging request, the Metz Report fails to provide a similar analysis.²²⁷

87. In particular, I find that following Rio Tinto’s acquisition of the final shares of Riversdale on August 1, 2011, the news media, particularly in Australia, frequently reported on the difficulties Rio Tinto experienced in attempting to develop an infrastructure to export coal from RTCM. For example, on August 9, 2011, *Bloomberg* reported that delays in refurbishing the existing Sena railway line were forcing producers to truck goods to the Port of Beira.²²⁸ Throughout the remainder of 2011 and 2012, the news media reported on continuing delays in upgrades to the Sena railway line²²⁹ and the limited capacity to which RTCM had access on the Sena rail line,²³⁰ difficulties associated with Rio Tinto’s initial barging plan²³¹ and the rejection of the company’s barging plan by the government of Mozambique in March 2012,²³² as well as Rio Tinto’s plans and efforts to build new greenfield rail and port facilities, including a joint venture with Ncondezi Coal announced in January 2012.²³³ This reporting emphasized that the lack of infrastructure in Mozambique created huge and growing challenges for the mining industry.²³⁴

²²⁷ Metz Report, ¶ 69. Dr. Metz produced and cites to only 24 news reports published between December 1, 2010 and January 16, 2013, and, with the exception of three news reports about the Mozambique government’s rejection of barging, he uses the majority of these reports to establish details about Rio Tinto’s acquisition of Riversdale (20 news reports) and previous Alcan impairments (one news report) rather than to establish market participants’ knowledge of the risks associated with RTCM. See Metz Report, ¶¶ 53-60, 69-70; Metz Production.

²²⁸ See **Appendix C.6**, “The Political Climate for Foreign Investment in Mozambique,” *Bloomberg*, August 9, 2011.

²²⁹ See **Appendix C.6**, e.g., “Mozambique: the birth of new coal exporter,” *Energy Economist*, September 5, 2011; “Rio Tinto hits hurdle in barge bid,” *AFR*, March 5, 2012; “Albanese resets compass on African adventure,” *AFR*, August 16, 2012; “Rio Tinto expects layoffs, project postponements as China growth lags,” *SNL Coal Report*, October 15, 2012; “Mozambique’s coal bonanza,” *Gulf Times*, December 14, 2012.

²³⁰ See **Appendix C.6**, e.g., “Rio Tinto opts to ship out coal by river,” *Africa Mining Intelligence*, November 9, 2011; “Albanese resets compass on African adventure,” *AFR*, August 16, 2012.

²³¹ See **Appendix C.6**, e.g., “Zambezi too costly for Eurasian coal barges,” *AFR*, February 10, 2012.

²³² See **Appendix C.6**, e.g., “Interview-Mozambique rejects coal barging study -minister,” *Reuters*, March 1, 2012; “Rio Tinto hits hurdle in barge bid,” *AFR*, March 5, 2012; “Ripples widen from Rio’s Zambezi blow,” *AFR*, March 12, 2012; “Albanese resets compass on African adventure,” *AFR*, August 16, 2012.

²³³ See **Appendix C.6**, e.g., “Rio in joint study for port,” *AFR*, January 23, 2012.

²³⁴ See **Appendix C.6**, e.g., “Coal Exports Commence in Mozambique,” *IHS Markit*, September 13, 2011; “Mozambique: Southern Africa’s ‘Boom Town’,” *Engineering & Mining Journal*, June 1, 2012; “Mozambique’s riches: All fired up,” *The Economist*, September 29, 2012.

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88. In addition, the media reported on the production plans for RTCM, the initial delays in exporting the first production from RTCM, and the actual versus expected production. Specifically, news reports acknowledged Rio Tinto's disclosures that first production from Benga was expected by the end of 2011²³⁵ with the first exports expected in the first quarter of 2012,²³⁶ and reported on the delay in first production to the end of the first half of 2012²³⁷ as well as the first shipment of coal, which was announced on June 25, 2012.²³⁸ The media also acknowledged RTCM's September 20, 2011 production targets for 2012 of 1,000 kt of coking coal and 500 kt of thermal coal,²³⁹ and reported the reduced production target provided in August 2012 of only 400 kt of coking coal for 2012.²⁴⁰ Moreover, the media reported on the disclosure of the 2012 coking and thermal coal production from Benga attributable to Rio Tinto, which was 188 kt of coking coal and 272 kt of thermal coal (including production attributable to Tata, total production from Benga was 289 kt of coking coal and 419 kt of thermal coal).²⁴¹

3. *Equity Analysts Acknowledged the Risks Associated with RTCM Well Before the HY 2012 Earnings Release and the RTCM Impairment Disclosure*

89. Based on an analysis of the equity analysts' reports available to me, I conclude that equity analysts acknowledged the risks associated with RTCM well before the HY 2012 Earnings Release and the RTCM Impairment Disclosure. To assess equity analysts' knowledge of the risks associated with RTCM prior to the RTCM Impairment Disclosure, I performed searches of the analysts' reports produced in discovery and analysts' reports provided by Rio Tinto as well as the Capital IQ and Thomson ONE platforms to identify analysts' reports published between November 26, 2010 and January 16, 2013. My search criteria, explained in more detail in the notes to **Appendix C.7**,

²³⁵ See **Appendix C.6**, e.g., "Update: Vale Mozambique Coal Reaches Port; Eyes Aug Export," *Dow Jones Business News*, August 9, 2011.

²³⁶ See **Appendix C.6**, e.g., "Rio Tinto to Expand Iron Ore, Coking Coal Output to Serve World Steels," *Japan Metal Bulletin*, November 7, 2011; "Mining Indaba 2012: Rio Tinto expects first Benga coking coal shipment by end-March," *Metal Bulletin*, February 7, 2012.

²³⁷ See **Appendix C.6**, e.g., "Rio barging ahead on coal," *The Australian*, April 2, 2012; "Mozambique's first Benga coal shipment expected soon," *Metal Bulletin*, May 25, 2012.

²³⁸ See **Appendix C.6**, e.g., "Rio Tinto starts coal exports from Mozambique, Noticias says," *Bloomberg*, June 25, 2012; "Out of Africa: ore competitor on rise," *AFR*, June 27, 2012.

²³⁹ See **Appendix C.6**, e.g., "Exploitation Project on Mozambique Coking Coal Made By Rio Tinto; Hard Coking Coal at Zambeze Mine Is 10 Million Tons/Year," *Tex Energy Report*, September 22, 2011; "Rio sets ambitious goals for Mozambique mines," *AFR*, October 4, 2011.

²⁴⁰ See **Appendix C.6**, e.g., "Albanese resets compass on African adventure," *AFR*, August 16, 2012.

²⁴¹ See **Appendix C.6**, e.g., "S.P. Angel - Morning View," *Bloomberg*, January 15, 2013.

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yielded 440 analysts' reports to review during this period of which I found 100 that discuss: (1) analysts' valuations of RTCM or its impact on Rio Tinto's overall valuation, (2) infrastructure solutions for RTCM, or (3) RTCM's resource quality or quantity.²⁴² I summarize these analysts' reports in **Appendix C.7**.

90. Although Dr. Metz states that: "[s]ome market analysts had already changed their valuation of the Riversdale mining assets prior to the write-down due to the lack of progress on [] infrastructure issues"²⁴³ and acknowledges that "it is [] possible that some of the weaknesses of the Riversdale mining assets were already known to the market by the time of the official write-down,"²⁴⁴ the Metz Report fails to present any analysis of analysts' reports published prior to the RTCM Impairment Disclosure and thus provides no insight into analysts' acknowledgement of the risks of RTCM prior to the impairment disclosure.²⁴⁵ As a consequence, the Metz Report fails to show the extent of equity analysts' acknowledgement of the risks associated with RTCM before the HY 2012 Earnings Release and RTCM Impairment Disclosure, and fails to diagnose accurately whether the RTCM Impairment Disclosure negatively affected analysts' valuation of RTCM, as discussed in the next subsection.
91. As I document in **Appendix C.7**, from the first reports discussing Rio Tinto's potential acquisition of Riversdale, equity analysts flagged that RTCM had the potential to make Rio Tinto a major coking-coal exporter, but that expanding the limited infrastructure would be the key hurdle to achieving this. For example, on December 6, 2010, in response to the announcement from

²⁴² The reports included in **Appendix C.7** were published between November 26, 2010 and January 16, 2013 and were either produced in discovery, provided by Rio Tinto, found in a keyword search of reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms, or found in a search of reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms during four event periods. The keywords I used for the keyword search were Riversdale, Mozambique, Tete, Moatize, RTCM, Zambeze, Zambezi, barging, or barge. The four event periods were: Acquisition (November 26, 2010 to January 6, 2011), HY 2012 Earnings Release (August 1, 2012 to August 22, 2012), November 2012 Investor Seminar (November 22, 2012 to December 12, 2012), and Pre-Impairment Disclosure (January 10, 2013 to January 16, 2013). I filtered the reports to include one report per contributor per day and exclude 47 reports that are summarized in **Appendix C.11** and **Appendix C.12** (which I discuss below) to avoid duplication.

²⁴³ Metz Report, ¶ 69.

²⁴⁴ Metz Report, ¶ 18.

²⁴⁵ Dr. Metz produced 870 analysts' reports published between December 1, 2010 and January 16, 2013 but cites only seven, which he uses to establish details about Rio Tinto's acquisition of Riversdale (six reports) and the Alcan impairment (one report), rather than to establish equity analysts' knowledge of the risks associated with RTCM. See Metz Report, ¶¶ 53-59, 70; Metz Production, EPROD-SEC-DEF-000000004.xlsx.

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Riversdale that it had had discussions with Rio Tinto regarding a potential transaction, a J.P. Morgan analyst wrote:

Mozambique has the potential to develop into a major source of coking coal supply, potentially rivaling Australia over time. Assuming RIV reaches its total production target of 23.4Mtpa (attributable, c.72% coking) would take RIO's share of the global [hard coking coal] market to just over 15.3% (pro-forma 2010)... As we have pointed out in our commentary on Riversdale, the key hurdle in project development is infrastructure and the current plan of barging looks challenging...²⁴⁶

Similarly, on December 6, 2010, an analyst at RBS Strategy wrote:

RIV has potential to produce over 20Mtpa coal, coking/thermal a 60/40 split... We believe RIV's assets are tier-1 projects; i.e., large, low cost, export oriented and expandable.... The key risks are around infrastructure solutions, which are still in the early stages of development.²⁴⁷

Several other analysts repeated these sentiments throughout 2011 and 2012.²⁴⁸

92. In addition to the risks related to the cost of developing such extensive new infrastructure, analysts recognized that Mozambique was a developing country and, as such, investments in the country were subject to increased risk.²⁴⁹ In particular, analysts identified sovereign risk as a potential challenge to RTCM.²⁵⁰ Specifically, analysts recognized the risk that the government of Mozambique could refuse to allow certain infrastructure projects to be developed or could impose requirements, such as requiring infrastructure to be shared across companies or requiring public

²⁴⁶ See **Appendix C.7**, J.P. Morgan, "Talks with Riversdale Mining," December 6, 2010, p. 2.

²⁴⁷ See **Appendix C.7**, RBS Strategy, "Potential move on Riversdale," December 6, 2010, p. 1.

²⁴⁸ See **Appendix C.7**, e.g., RBC Capital Markets, "Rio's \$16.00 Offer Goes Unconditional; Increased To \$16.50 if It Reaches 47%," March 29, 2011, p. 2; Merrill Lynch, "Riversdale acquisition creates growth options," May 9, 2011, p. 7; CLSA Asia-Pacific Markets, "Loading the furnace," February 20, 2012, p. 88; Deutsche Bank, "The Big 5," April 24, 2012, p. 8.

²⁴⁹ See **Appendix C.7**, e.g., UBS Investment Bank, "Feedback from CEO roundtable," February 14, 2011, p. 3; RBS Strategy, "Rio may bid for EQN," February 14, 2011, p. 2; J.P. Morgan, "Feedback from Investor Seminar," September 21, 2011, p. 1; Deutsche Bank, "The Big 5," April 24, 2012, pp. 6, 15, 19; Redburn, "Any Old Iron?," May 23, 2012, p. 9.

²⁵⁰ See **Appendix C.7**, e.g., Morningstar Inc., "Rio Tinto: Pass the Umbrella Please," April 14, 2011, p. 2; Stifel, "Rio Tinto (BUY) Mozambique plans to revise mining law," July 7, 2011, p. 1; Morgan Stanley, "1QCY12: Guidance light, but fundamentals remain intact," April 18, 2012, p. 3; Deutsche Bank, "The Big 5," April 24, 2012, p. 6; Redburn, "Any Old Iron?," May 23, 2012, p. 9.

ownership of the infrastructure,²⁵¹ which could reduce Rio Tinto's ability to profit from the infrastructure.

93. Furthermore, analysts recognized that RTCM was an early stage development project—the Benga mine had not yet begun production, the Zambeze mine was undeveloped, and Tete East was unexplored—and therefore there were risks associated with establishing a new mining operation and with the uncertain quantity and quality of the coal.²⁵² For example, an analyst from Deutsche Bank recognized that determining a development plan for RTCM would take time, stating in April 2012: “[f]irst capex guidance on Mozambique coal (for Benga Stage 2 and Zambeze) [is] unlikely [to] be provided in CY12, and we expect the feasibility [study] on an expansion of Benga, development of Zambeze, and rail and port to be completed in CY14.”²⁵³ Recognizing the uncertainty around the resource quality, a Merrill Lynch analyst noted in December 2010 that “a majority of the resource [at Zambeze] is in the lower-probability Inferred category” and that “[t]here has been a lot of debate, essentially since RIV kicked off prospecting in the Moatize Basin, about the quality of Moatize met coal. Specifically, there were suggestions that this region would not meet the quality criteria for “premium” quality met coal.”²⁵⁴
94. As RTCM began to ramp up production at the Benga mine in late 2011 through early January 2013, analysts frequently acknowledged the difficulties Rio Tinto experienced in attempting to produce and export coal from RTCM. In particular, as I show in **Appendix C.7**, many of the analysts' reports with commentary regarding RTCM during 2012 reported on the delays in the first shipment of coal and slower than forecasted development of the mines. Analysts reported that these delays were due to logistical constraints and upgrade work on the Sena railway line.²⁵⁵ Following the

²⁵¹ See **Appendix C.7**, e.g., Deutsche Bank, “Riversdale = options,” April 28, 2011, p. 6; J.P. Morgan, “Feedback from Investor Seminar,” September 21, 2011, p. 4; Deutsche Bank, “The Big 5,” April 24, 2012, p. 8.

²⁵² See **Appendix C.7**, e.g., Liberum Capital, “Rio Tinto,” December 6, 2010, p. 1; Merrill Lynch, “Rio’s multi-decade growth plan puts Riversdale in the spotlight,” December 23, 2010, pp. 3, 6; Deutsche Bank, “Riversdale = options,” April 28, 2011, p. 6; RBC Capital Markets, “Investor Seminar Highlights Growth Optionality,” September 20, 2011, pp. 5-6. Note however, that some analysts categorized the risk associated with the Riversdale acquisition differently. See, e.g., Credit Suisse, “Credit Suisse EEMEA Daily,” June 13, 2011, p. 4.

²⁵³ See **Appendix C.7**, Deutsche Bank, “The Big 5,” April 24, 2012, p. 8.

²⁵⁴ See **Appendix C.7**, Merrill Lynch, “Rio’s multi-decade growth plan puts Riversdale in the spotlight,” December 23, 2010, pp. 3, 5.

²⁵⁵ See **Appendix C.7**, e.g., UBS Investment Bank, “Iron ore ahead of guidance,” January 17, 2012, p. 3; Macquarie Research, “Humming in the Pilbara,” January 18, 2012, p. 3; Nomura International (Hong Kong) Ltd., “Delivering,

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Government of Mozambique's rejection of the company's bargaining submission by the government of Mozambique, publicly reported in the press in early March 2012, some analysts commented on the negative implications of this decision.²⁵⁶

95. Analysts also acknowledged that the resource and reserves estimates provided in Rio Tinto's 2011 Annual Report released on March 16, 2012 were lower than had been forecasted by Riversdale in 2010 but were still sufficient to support the 60 Mtpa production target for over 30 years.²⁵⁷ Regarding production, analysts reported the updated production target for 2012 of 400 kt of coking coal, which was provided at the HY 2012 Earnings Release, with a Deutsche Bank analyst noting that this announcement caused them to reduce their production forecasts for 2012.²⁵⁸ Analysts also commented on the initial production figures provided at HY 2012 and in the third and fourth quarter 2012 operations reviews, with a Baillieu Holst analyst indicating disappointment with the mix of thermal coal relative to coking coal at HY 2012 and a Cowen Securities analyst indicating the coking coal production was in line with while thermal coal production as above its forecasts in October 2012.²⁵⁹ Several analysts also acknowledged the company's statements that development of RTCM was taking longer than expected and that approvals of capital expenditures were likely to be delayed.²⁶⁰
96. Recognizing the risks to RTCM, prior to the HY 2012 Earnings Release, multiple analysts stated that they believed that the market was assigning little to no value to RTCM, which is true regardless of whether the market initially viewed the acquisition as accretive on April 8, 2011, as Dr. Metz

yet remains leveraged to steel; Solid Q3 in line, growth still to come. Offers value despite reduced 2013 expectations," October 16, 2012, p. 5; Macquarie Research, "In iron ore we trust," October 17, 2012, p. 5.

²⁵⁶ See **Appendix C.7**, e.g., CLSA Asia-Pacific Markets, "No river for Riversdale," March 19, 2012, pp. 1-8; Deutsche Bank, "The Big 5," April 24, 2012, p. 68.

²⁵⁷ See **Appendix C.7**, e.g., CLSA Asia-Pacific Markets, "No river for Riversdale," March 19, 2012, pp. 1-2; Deutsche Bank, "The Big 5," April 24, 2012, p. 71.

²⁵⁸ See **Appendix C.11**, e.g., Deutsche Bank, "1H12 - Growing where it counts," August 8, 2012, p. 14; Credit Suisse, "Capex moderates: Pilbara & Single A focused," August 9, 2012, p. 9; Morgan Stanley, "Rio Tinto Ltd 1H12 Results," August 9, 2012, p. 8.

²⁵⁹ See **Appendix C.11**, e.g., Baillieu Holst, "Interim ahead of expectations, it's all iron ore," August 9, 2012, p. 7; **Appendix C.7**, e.g., Cowen Securities, "Rio Tinto 3Q12 Production Takeaways," October 16, 2012, p. 1; Nomura Equity Securities, "Rolling start in 2013," January 15, 2013, p. 2.

²⁶⁰ See **Appendix C.11**, e.g., Deutsche Bank, "1H12 - Growing where it counts," August 8, 2012, p. 14; Baillieu Holst, "Interim ahead of expectations, it's all iron ore," August 9, 2012, p. 7; Credit Suisse, "Capex moderates: Pilbara & Single A focused," August 9, 2012, p. 9; Morgan Stanley, "Rio Tinto Ltd 1H12 Results," August 9, 2012, p. 8; **Appendix C.7**, e.g., UBS Investment Bank, "More than just an iron ore story," November 12, 2012, p. 33.

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erroneously claims.²⁶¹ In particular, in an April 24, 2012 report, a Deutsche Bank analyst stated that: “we calculate that there is *no value* reflected in the share price for these compelling growth projects [including RTCM],”²⁶² and in a July 5, 2012 report, a Société Générale analyst stated that: “[m]ost analysts seem to assign *little or no value* to Rio Tinto’s Riversdale projects.”²⁶³ Thus, in Dr. Metz’s words, I conclude that: “the weaknesses of the Riversdale mining assets *were* already known to the market by the time of the official write-down.”²⁶⁴

4. *The RTCM Impairment Disclosure Did Not Negatively Affect Most Analysts’ Opinions of or Target Prices for Rio Tinto Demonstrating that Dr. Metz Overstated Analysts’ Negative Reactions to the Disclosure*

97. Based on an analysis of the analysts’ reports available to me, I find that equity analysts’ post-disclosure reactions to the RTCM Impairment Disclosure demonstrate that analysts acknowledged the risks of RTCM prior to the RTCM Impairment Disclosure and that the disclosure did not negatively affect most analysts’ opinions of or target prices for Rio Tinto. This finding is consistent with the views expressed by multiple analysts prior to the HY 2012 Earnings Release that the market was placing little to no value on RTCM’s assets. To assess equity analysts’ reaction to the RTCM Impairment Disclosure, I performed searches of the analysts’ reports produced in discovery and analysts’ reports provided by Rio Tinto as well as the Capital IQ and Thomson ONE platforms to identify analysts’ reports on Rio Tinto published between January 17, 2013 and January 31, 2013. My search criteria, explained in more detail in the notes to **Appendix C.8**, yielded 30 analysts’ reports from 21 unique contributors.²⁶⁵ I summarize these analysts’ reports in **Appendix C.8**. Analysts’ reports from 20 of these 21 contributors include a reaction to the RTCM Impairment Disclosure.²⁶⁶

²⁶¹ Metz Report, ¶ 16.

²⁶² See **Appendix C.7**, Deutsche Bank, “The Big 5,” April 24, 2012, p. 5 (emphasis added).

²⁶³ See **Appendix C.7**, Société Générale, “Statistical modelling and near-term catalysts indicate Rio Tinto should outperform BHP B,” July 5, 2012, p. 5 (emphasis added).

²⁶⁴ Metz Report, ¶ 18 (emphasis added).

²⁶⁵ The reports included in **Appendix C.8** were published between January 17, 2013 and January 31, 2013 and were either produced in discovery, provided by Rio Tinto, or found in a search of reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms. I filtered the reports to include one report per contributor per day.

²⁶⁶ See **Exhibit 10**.

98. My review also demonstrates that Dr. Metz's selective quotations from only six analysts' reports paint a misleading picture of the impairment being a surprise and overstates the extent to which "analysts reacted negatively to the Riversdale write-off."²⁶⁷ Not only do these six reports represent a small fraction of the analysts' reports published following the RTCM Impairment Disclosure that include a reaction to the disclosure (I was able to locate and access 23 reports from 20 contributors that met these criteria), but for five of the six quotations cited by Dr. Metz, he fails to provide a complete picture of the analysts' reaction or fails to account for previous statements made by the same analyst.²⁶⁸ Specifically:

a. Dr. Metz cites a quote by a J.P. Morgan analyst stating that:

RIO's closing market capitalisation last night was \$107.7bn and at the time of writing the share price is down c.4% or c.\$4.3bn of market value lost, implying the unexpected nature of the coal impairments.²⁶⁹

However, the title of that same report is: "Rio Tinto plc: CEO Steps Down, *but \$14bn of Writedowns are Less of a Surprise* - ALERT" reflecting that the analyst found the announcement that Mr. Albanese was stepping down to be more of a surprise than the impairments.²⁷⁰ Furthermore, the report also states that: "[w]e already value the asset at \$619m, therefore we expect negligible impact to our valuation."²⁷¹

Moreover, although Dr. Metz's assertion when introducing this quote that: "*one equity analyst* interpreted the Riversdale news as the impetus for the initial negative London stock price move" *may* be true,²⁷² he failed to mention that Rio Tinto's London stock price recovered by the end of the day, closing at £34.395, down only 0.5 percent from the prior day's close of £34.580.²⁷³ Further, given that information about the RTCM Impairment,

²⁶⁷ Metz Report, § VIII.A.

²⁶⁸ The 23 analysts' reports including a reaction to the RTCM Impairment Disclosure captured by my search criteria for the period between January 17, 2013 and January 31, 2013 include five of the six reports cited by Dr. Metz. The exception is one report from Société Générale where my selection algorithm chose a report by Société Générale from later in the same day, rather than the report to which Dr. Metz cites. *See* Metz Report, ¶¶ 65-69.

²⁶⁹ Metz Report, ¶ 65.

²⁷⁰ Metz Report, ¶ 65 n. 57 (emphasis added).

²⁷¹ J.P. Morgan, "Rio Tinto plc: CEO Steps Down, but \$14bn of Writedowns are Less of a Surprise - ALERT," January 17, 2013, p. 1.

²⁷² Metz Report, ¶ 65 (emphasis added).

²⁷³ Rio Tinto plc stock price data from Bloomberg.

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the Alcan Impairment, and the management change news were disclosed simultaneously, it is speculative to assume that an initial decline in Rio Tinto's stock price would be due to one of the three pieces of information over any of the others. Similarly, Dr. Metz's suggestion that Rio Tinto's London stock price recovered later in the day on January 17, 2013 because of a delayed positive reaction to the management change news²⁷⁴ is speculative and unreliable. Dr. Metz provides no evidence to explain why investors in an efficient market would incorporate news of the RTCM Impairment into the share price before they incorporated the management change news even though the two pieces of information (along with the Alcan Impairment) were announced simultaneously.

b. Dr. Metz cites a quote from an HSBC analyst stating that:

Mozambique write-down: Rio will also write down the value of its Mozambique coal assets by USD3bn. Given that RIO bought these assets for USD5bn in a hostile acquisition of Riversdale Mining in 2011, this is a more recent and arguably embarrassing correction [in contrast to Alcan]....It is unclear whether the revision to recoverable volumes was a market driven or technical revision of reserves, but in either case this is unusual.²⁷⁵

However, elsewhere in the same report, HSBC makes a variety of statements indicating that it has never included RTCM in their valuation of Rio Tinto and, therefore, the impairment does not impact its valuation of the company as a whole, nor do they expect it to impact the market's valuation either:

- "The write-downs... have no impact on the future earnings stream on which we value the company."
- "The revision to book values is not material to our valuation, as we value on future cash flows (as does consensus)."
- "[T]his change looks like bringing the book value closer to our own valuation, and is unlikely, in our view, to lead to major changes to consensus estimates."
- "We have never incorporated Mozambique assets into our earnings estimates, as we have been unsure of the development path."²⁷⁶

c. Dr. Metz cites a quote from a UBS Investment Bank analyst stating that "[w]e believe the scale of the writedown raises questions about the due diligence process and was the primary

²⁷⁴ Metz Report, ¶ 79.

²⁷⁵ Metz Report, ¶ 66.

²⁷⁶ HSBC, "Rio Tinto (RIO LN):-OW: USD14bn in write-downs and a new CEO," January 17, 2013, p. 1.

driver of the need for management accountability,”²⁷⁷ but fails to provide the next sentence which states that: “[w]hile the size of impairment/mgmt change is a surprise, in our opinion, these are legacy issues which do not impact our NPV or EPS.”²⁷⁸

- d. Dr. Metz cites a Deutsche Bank report to show that: “the news did not match its assumptions regarding Rio Tinto’s ability to find a workable infrastructure solution,”²⁷⁹ but he fails to note that an earlier Deutsche Bank report published on April 24, 2012 acknowledged that the market assigned no value to a number of Rio Tinto’s growth projects including RTCM even though the Deutsche Bank analyst believed that they would create value for Rio Tinto, stating that: “we calculate that there is no value reflected in the share price for these compelling growth projects.”²⁸⁰
 - e. Dr. Metz cites a Société Générale report, but ignores that the title of the report to which he cites is: “*Write-offs Mostly a Non-event, New Management a Positive*”²⁸¹ and fails to note that on July 5, 2012, a Société Générale analyst stated that: “[m]ost analysts seem to assign little or no value to Rio Tinto’s Riversdale projects.”²⁸²
99. Moreover, Dr. Metz’s report fails to evaluate whether analysts changed their target prices for Rio Tinto in response to the RTCM Impairment Disclosure and the reasons given for any changes, which directly indicate the likelihood that the impairment of RTCM impacted the Rio Tinto ADR price. This failure prevents him from reaching a reliable conclusion regarding whether: “analysts reacted negatively to the Riversdale write-off.”²⁸³
100. As I summarize in **Exhibit 9**, ten of the 20 analysts whose reports are available to me and included a reaction to the RTCM Impairment Disclosure stated that the disclosure did not affect the analyst’s valuation of RTCM or Rio Tinto, and several of these analysts also stated that the market was

²⁷⁷ Metz Report, ¶ 66.

²⁷⁸ UBS Investment Bank, “Key Call: Rio Tinto Limited ‘CEO change. One impairment too many,’” January 17, 2013, p. 1.

²⁷⁹ Metz Report, ¶ 67.

²⁸⁰ See **Appendix C.7**, Deutsche Bank, “The Big 5,” April 24, 2012, p. 5.

²⁸¹ Metz Report, ¶ 69 n. 66 (emphasis added).

²⁸² See **Appendix C.7**, Société Générale, “Statistical modelling and near-term catalysts indicate Rio Tinto should outperform BHP B,” July 5, 2012, p. 5.

²⁸³ Metz Report, § VIII.A.

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already valuing the RTCM assets at less than those assets' book value on Rio Tinto's financial statements and/or that the impairment was expected.²⁸⁴ For example, an analyst with Goldman Sachs stated that: "[t]he write-downs and management changes do not impact our estimates or valuation of Rio."²⁸⁵ Likewise, an analyst with J.P. Morgan stated that: "[w]e already value the asset at \$619m, therefore we expect negligible impact to our valuation."²⁸⁶ An HSBC analyst stated that: "[t]he write-downs... have no impact on the future earnings stream on which we value the company... . We have never incorporated Mozambique assets into our earnings estimates... ."²⁸⁷ An analyst with Liberum similarly noted that: "[o]ur initial thoughts are the market already knew these acquisitions were overpriced and the writedowns are not incommensurate with ours and the market's valuation of these assets."²⁸⁸

101. The remaining ten analysts stated that the impairment would or may negatively impact the analysts' valuation of RTCM. However, as I show in **Exhibit 9**, three of the analysts stated that the RTCM Impairment Disclosure changed their valuations of RTCM by only \$0.8 billion to \$1.2 billion (relative to the \$3 billion announced impairment), meaning they had already assumed that the value of RTCM had declined substantially. Deutsche Bank, for example, was already valuing RTCM at \$1.3 billion, well below RTCM's book value of \$3.7 billion, when the impairment was announced and previously provided the view that *no value* for RTCM was reflected in the Rio Tinto share price.²⁸⁹ Similarly, Société Générale was already valuing RTCM at half its book value (approximately \$1.85 billion) when the impairment was announced and had previously stated its belief that most analysts seemed to assign little or no value to RTCM in their valuations of Rio

²⁸⁴ As discussed above, these 20 analysts issued 23 reports that include a reaction to the RTCM Impairment Disclosure.

²⁸⁵ See **Exhibit 9**, Goldman Sachs, "Valuation driven by iron ore price, not writedowns and CEO," January 17, 2013, p. 1. In addition, the title of the report is: "Valuation driven by iron ore price, not writedowns and CEO."

²⁸⁶ See **Exhibit 9**, J.P. Morgan, "Rio Tinto plc: CEO Steps Down, but \$14bn of writedowns are less of a surprise - ALERT," January 17, 2013, p. 1. Another report from J.P. Morgan published on the same day also states: "We confirm this morning's announced \$14bn writedown has no impact on our NPV." J.P. Morgan, "Alcan overhang gone with CEO departure & \$14bn impairment charge," January 17, 2013, p. 1.

²⁸⁷ See **Exhibit 9**, HSBC, "Rio Tinto (RIO LN):-OW: USD14bn in write-downs and a new CEO," January 17, 2013, p. 1.

²⁸⁸ See **Exhibit 9**, Liberum, "Big write downs and management changes, RIO moving ahead of market expectations on both counts," January 17, 2013, p. 1.

²⁸⁹ See **Exhibit 9**, Deutsche Bank, "Capital allocation held to account," January 17, 2013, p. 1; **Appendix C.7**, Deutsche Bank, "The Big 5," April 24, 2012, pp. 5, 7.

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Tinto.²⁹⁰ Credit Suisse was also valuing RTCM at \$1.5 billion, well below its book value prior to the impairment disclosure, and was expecting an impairment in the future, stating in its reaction to the disclosure: “[g]iven our valuations for these assets, writedowns would have been expected sometime in years ahead but the year-end audit process seems to have brought forward.”²⁹¹

102. Moreover, six of these ten analysts either did not change their target price for Rio Tinto due to the RTCM Impairment Disclosure or increased their target prices due to changes in their commodity price forecasts, implying that their price forecasts for Rio Tinto equity securities were not affected by the impairment of RTCM.²⁹²

103. In his report, Dr. Metz states that:

In any securities fraud matter, one can find investors who hedged against a potential loss. This does not indicate that the market knew the true circumstance. Therefore, finding that some analysts had decided to assign little value to Riversdale does not indicate that those investors or the market generally knew the true status of the Riversdale asset. Defendants had not revealed the truth until this date when they announced the write-off, and as I have documented, market participants were generally surprised and disappointed by the news.²⁹³

104. However, as I discussed above, Dr. Metz “documented” that market participants were generally surprised and disappointed by the RTCM Impairment Disclosure through a biased recitation of quotes from select analyst report. Based on my review of analysts’ reports, I found that although some of analysts may have been “disappointed,” this did not translate into a decline in most analysts’ target prices for Rio Tinto as a whole. In particular, 16 out of 20 analysts either did not change their targets for Rio Tinto’s stock price in response to the RTCM Impairment Disclosure or changed their targets for other reasons.²⁹⁴

²⁹⁰ See **Exhibit 9**, Société Générale, “Time to boost exposure to Rio Tinto stock,” January 17, 2013, p. 4 (“After [Rio Tinto] reported infrastructure issues in Mozambique early last year, we started valuing these assets at 50% of the acquisition cost.”); **Appendix C.7**, Société Générale, “Statistical modelling and near-term catalysts indicate Rio Tinto should outperform BHP B,” July 5, 2012, p. 5.

²⁹¹ See **Exhibit 9**, Credit Suisse, “Handing over to a steady set of hands, writedowns inline with valuation,” January 17, 2013, p. 1. Note that the report also states: “We see the Mozambique coal write-down as the lesser anticipated of the two.”

²⁹² That few analysts decreased their target prices or earnings forecasts following the impairment of RTCM is also confirmed by **Appendix C.9** and **Appendix C.10**.

²⁹³ Metz Report, ¶ 69 n. 64.

²⁹⁴ Of the four analysts that did change their targets and cited the impairment of RTCM as one of the reasons for doing so: Citigroup increased its target price by 21.2 percent (21.2 percent = $\$64.03 / \$52.82 - 1$), while the other

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105. These results contradict Dr. Metz’s speculation that the RTCM Impairment Disclosure: “could well have put significant negative pressure on the ADR price” and instead support the conclusion that the disclosure did not have a negative impact on Rio Tinto’s ADR price, consistent with the lack of a statistically significant price movement that day. In other words, my review and analysis of the available evidence suggests that the market assigned little value to RTCM prior to the RTCM Impairment Disclosure, and therefore the news of an accounting-based impairment simply confirmed the prevailing view in the market of RTCM’s value and did not have a significant negative impact on the price of Rio Tinto’s ADRs.

5. *Academic Research Related to Non-Core Earnings—Research that Dr. Metz Ignored—Supports The Immateriality of the RTCM Impairment*

106. The lack of a negative reaction to the RTCM Impairment Disclosure is also consistent with academic research related to equity analysts’ evaluation of reported earnings, which Dr. Metz failed to acknowledge. In particular, academic research finds that analysts and investors rely on: “‘Street’ earnings numbers reported by the analyst tracking services, rather than the earnings numbers reported under GAAP,”²⁹⁵ *i.e.*, Generally Accepted Accounting Principles. The “Street” measures of earnings typically exclude a variety of expenses required under GAAP, such as non-recurring and non-cash items.²⁹⁶ Therefore, the RTCM impairment, a one-time non-cash charge, did not impact Rio Tinto’s Street earnings.²⁹⁷ Moreover, this research shows that: “the market response to the Street earnings number has displaced GAAP earnings as a primary determinant of stock prices.”²⁹⁸ Consequently, as Rio Tinto’s “Street” earnings were unaffected by the impairment of

three analysts reduced their target prices by 2 percent or less (CGS-CIMB: -2.0 percent = A\$82.36 / A\$84.05 - 1; Deutsche Bank: -1.1 percent = £44.00 / £44.50 - 1; Zacks Investment Research: -1.9 percent = A\$51.00 / A\$52.00 - 1). See **Exhibit 9**.

²⁹⁵ Bradshaw, M. and R. Sloan, “GAAP versus The Street: An Empirical Assessment of Two Alternative Definitions of Earnings,” *Journal of Accounting Research*, 40(1), March 2002, 41-66 (“Bradshaw and Sloan (2002)”), at pp. 42-43. For companies like Rio Tinto, which files its financial statements using International Financial Reporting Standards (“IFRS”), the “Street” measure of earnings similarly excludes a variety of expenses required under IFRS including special items and non-cash items. Bradshaw and Sloan’s 2002 results have been confirmed by subsequent studies showing that that investors pay more attention to unexpected changes in Street earnings than in GAAP earnings. See, *e.g.*, a survey of results from relevant studies as reported in Black, D., T. Christensen, J. Ciesielski, and B. Whipple, “Non-GAAP reporting: Evidence from academia and current practice,” *Journal of Business Finance and Accounting*, 45 (3-4), April 2018, 259–294, at 266-267, 271.

²⁹⁶ Bradshaw and Sloan (2002), at p. 44.

²⁹⁷ Articles in the popular press discuss Rio Tinto’s performance relative to market consensus or market expectations (*i.e.*, analysts’ forecasts) in terms of its Underlying Earnings. See, *e.g.*, Rio Tinto Media Release, *Rio Tinto announces first half underlying earnings of \$5.2 billion*, August 8, 2012, p. 3; “FED: Rio Tinto profit down, but is bullish,” *Australian Associated Press Financial News Wire*, August 8, 2012.

²⁹⁸ Bradshaw and Sloan (2002), at p. 41.

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RTCM, this research is consistent with my finding that Rio Tinto's ADR price was unaffected by the RTCM impairment.

B. Dr. Metz's Conclusion that the Change in Rio Tinto's Management: "Could Well Have Put Significant Positive Pressure on the ADR Price" Is Speculative and Unreliable

1. A Majority of Analysts Had a Neutral Reaction to the Management Change Announcement

107. As I summarize in **Exhibit 10** and **Appendix C.8**, my review of analysts' reports published between January 17, 2013 and January 31, 2013 demonstrates that the majority of analysts' reactions to the management change was neutral immediately following the announcement. The reports I reviewed consisted of 30 analysts' reports from 21 unique contributors that were either produced in discovery, provided by Rio Tinto, or found in a search of reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms.²⁹⁹ Analysts' reports from 20 of these 21 contributors include a reaction to the management change.
108. Dr. Metz, however, claims to find a much more enthusiastic reaction, asserting that: "[a] review of analyst reaction regarding the departure of CEO Albanese and the appointment of Sam Walsh indicates that the change was unexpected and overwhelmingly positive."³⁰⁰ As support, Dr. Metz cites 11 analysts' reports from nine unique contributors that he claims demonstrate that the market: "was reacting positively to both the removal of the old guard and the hiring of someone with a new perspective."³⁰¹ However, this characterization overstates the positivity of the analysts' reaction to the management change.
109. In particular, as I show in **Exhibit 10** and **Appendix C.8**, I find that analysts' reports from 12 of the 20 analysts that published reports between January 17, 2013 and January 31, 2013 and that provide reactions to the management change contained a neutral reaction to the change. Here, I consider an analyst's report to have a neutral reaction if it: (1) doesn't mention the management change as being "positive;" (2) describes Mr. Walsh using words such as "safe," "known," "familiar," or "credible;" (3) states that the analyst or the market is "comfortable" with the change;

²⁹⁹ As explained in greater detail in the notes to **Appendix C.8**, I filtered the reports to include one report per contributor per day.

³⁰⁰ Metz Report, ¶ 78.

³⁰¹ Metz Report, ¶¶ 78-84.

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(4) states that the market will “wait and see” how Mr. Walsh performs; (5) states that the change was expected; or (6) comments on the good performance of Mr. Albanese. In addition, some of these reports emphasize that a major change in strategy from the company is not expected,³⁰² or express concerns about the management change being hasty and the potential for a talent shortfall in top management.³⁰³ Dr. Metz considers four of these contributors (HSBC, Jefferies LLC, Nomura International, and Canaccord Genuity) to have had a positive reaction to the management change, which in my opinion overstates the reaction.³⁰⁴ For example, Dr. Metz notes the analyst from Nomura International as stating:

These write-downs relate to the two largest acquisitions the company has made during Tom Albanese’s tenure, and in our view, his position had become untenable... Sam Walsh (the new CEO with immediate effect) is well known to the market, has been with the Group since 1991, has been in charge of RIO’s iron ore business since 2004, and has been on the Board since 2009... [We] would be surprised to see RIO involved in any M&A activity in the near term.³⁰⁵

110. However, Dr. Metz fails to mention that the Nomura International analyst also stated that Sam Walsh: “is seen as a ‘straight shooter,’ but the market will likely adopt a ‘wait and see’ approach to his leadership” and “[w]e do not expect to see any major change in strategy from the group with the new CEO appointment.”³⁰⁶ In other words, in my opinion, this analyst’s statements do not support Dr. Metz’s conclusion that: “the market was reacting positively to both the removal of the old guard and the hiring of someone with a new perspective.”³⁰⁷
111. Further, the remaining eight analysts were generally measured in their enthusiasm as I show in **Appendix C.8**.³⁰⁸ For example, one report characterizes the change as a “mild positive.”³⁰⁹ In addition, the majority of these analysts’ reports indicate that the analysts expected the new

³⁰² See **Appendix C.8**, e.g., Nomura International (Hong Kong) Ltd., “Enter Sam Walsh,” January 17, 2013, p. 1; Credit Suisse, “Increasing accountability & improved optics,” January 18, 2013, p. 1.

³⁰³ See **Appendix C.8**, e.g., Goldman Sachs, “Valuation driven by the iron ore price, not writedowns and CEO,” January 17, 2013, p. 4; Macquarie Research, “Acquisition Accountability,” January 18, 2013, pp. 1-2.

³⁰⁴ The Metz Report does not mention reactions to the management change from the other eight contributors who I consider to have had a neutral reaction to the change.

³⁰⁵ Metz Report, ¶ 84.

³⁰⁶ See **Appendix C.8**, Nomura International (Hong Kong) Ltd., “Enter Sam Walsh,” January 17, 2013, p. 1.

³⁰⁷ Metz Report, ¶ 84.

³⁰⁸ The Metz Report includes quotes from only five of these analysts in his report. See Metz Report, ¶¶ 78-84.

³⁰⁹ See **Appendix C.8**, CGS-CIMB / CIMB Research, “Write this down,” January 18, 2013, p. 3.

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management to continue to follow or to better implement existing strategies, rather than making major changes. Some examples include:

- “Somewhat long-awaited, this heralds the potential for a further improvement in capital allocation.”³¹⁰
- “This CEO change, coupled with a new CFO later in 2013, may herald a change in strategy for RIO which may be more focused on prudent capital allocation and cash shareholder returns.”³¹¹
- “[W]e expect new CEO Sam Walsh will quickly begin a tough but very process driven approach to further drive costs from the business, particularly the aluminium and coal operations, and accelerate new technologies across the group.”³¹²

112. As I discuss in **Section X**, the emphasis on capital allocation, increasing cash returned to shareholders, and cost cutting were all initiatives that had been previously discussed at the November 2012 Investor Seminar and were positively received by analysts at the time.

113. Furthermore, as I show in **Exhibit 9**, only one analyst (from Citigroup) out of 20 cites the management change as a reason for increasing the price target for Rio Tinto. In addition, I have seen no evidence that analysts had considered changing their price targets due to the RTCM impairment, but chose not to do so because of the management change, or vice versa.³¹³ In other words, the management change did not affect analysts’ valuations of Rio Tinto.

³¹⁰ See **Appendix C.8**, Deutsche Bank, “Capital allocation held to account,” January 17, 2013, p. 1.

³¹¹ See **Appendix C.8**, J.P. Morgan, “Rio Tinto plc: CEO steps down, but \$14bn of writedowns are less of a surprise - ALERT,” January 17, 2013, p. 1.

³¹² Note that the title of this report is: “New CEO, *same strategy*, but catalyst for further changes” (emphasis added). See **Appendix C.8**, Investec Bank, “New CEO, same strategy, but catalyst for further changes,” January 18, 2013, p. 1.

³¹³ For example, a Goldman Sachs analyst’s report following the January 17, 2013 disclosures is titled: “Valuation driven by the iron ore price, not writedowns and CEO.” See **Appendix C.8**, Goldman Sachs, “Valuation driven by the iron ore price, not writedowns and CEO,” January 17, 2013.

I also note that although Dr. Metz cites a blog post that he claims conveys this sentiment, he does not identify any analysts’ reports or other news reports with this sentiment, nor do the quotes from analysts that are cited in the blog post contain this sentiment. See Metz Report, ¶ 79; Metz Production, SEC-GLOBALECO-E-0000886.pdf, “WSJ BLOG/Deal Journal: Analysts React to Rio Tinto Management Reshuffle, Writedown,” *Dow Jones News Service*, January 17, 2013.

2. *Academic Research Finds that Companies' Stock Prices Are Not Typically Negatively Affected by an Announcement that a Senior Executive Has Been Forced Out and Replaced by an Internal Appointee*

114. Evidence from academic studies shows that the magnitude and direction of the price reaction to management changes depends on the characteristics of the turnover, including whether the departure was forced or voluntary and whether the replacement was with an insider or an outsider, as well as the timing of the announcements of the departure and successor. In this case, the management change announced by Rio Tinto on January 17, 2013 was a forced change, the outgoing CEO's post was filled by an internal promotion, and the announcements were made simultaneously.³¹⁴ As I discuss below, the results from academic studies show that when a senior executive is forced out and replaced by an internal appointee, and these changes are announced simultaneously, then the abnormal return of the company's stock price on the date of the announcement is not statistically significantly different from zero. In other words, academic research finds that companies' stock prices are not typically negatively affected by such announcements. These studies explain that inside successions are unlikely to be associated with positive and statistically significant abnormal returns because insiders are more likely to maintain the status quo and continue with existing strategies, as many of the analysts noted in Rio Tinto's case (*see Appendix C.8*).
115. Nevertheless, Dr. Metz claims to find the opposite, *i.e.*, that: "the academic literature on CEO turnover indicates that management changes provide the market with new information which can be associated with statistically significant abnormal price changes."³¹⁵ He continues by arguing that: "both the firing of CEO Albanese and the hiring of Sam Walsh were considered positive developments. Thus, consistent with academic research, these positive surprises regarding the change in leadership should be associated with upward pressure on the ADR price."³¹⁶ However, as I demonstrate below, this claim misstates the findings in the studies by failing to account for the characteristics of the management change in this case. In particular, Dr. Metz selectively cites results from academic studies in which the characteristics of the sample do not match the

³¹⁴ In addition, the announcement also included news that the chief executive of the Energy division would be stepping down. Rio Tinto Media Release, *Rio Tinto impairments and management changes*, January 17, 2013, p.1.

³¹⁵ Metz Report, ¶ 80.

³¹⁶ Metz Report, ¶ 85.

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characteristics of the Rio Tinto CEO turnover announcement, and Dr. Metz ignores other studies and results from the studies he cites that are more pertinent to the Rio Tinto case.

116. Dr. Metz first cites results from a study by Furtado and Rozeff (1987) that analyzed a sample covering 323 top executive appointment announcements between 1975 and 1982.³¹⁷ Importantly, Dr. Metz fails to report that the authors of this study exclude from this sample top executive appointment announcements that are confounded by simultaneous dismissal announcements.³¹⁸ Thus, although Furtado and Rozeff find a small but statistically significant positive price reaction (0.51 percent) when larger firms announce the appointment of an internal candidate to a top executive position,³¹⁹ these results are not relevant to this case because the announcement of Mr. Walsh's appointment occurred at the same time as the announcement of Mr. Albanese's departure.³²⁰
117. Dr. Metz next cites a finding from Huson, *et al.* (2004) that the average abnormal return on the announcement of a CEO's departure is 0.344 percent and statistically significantly different from zero.³²¹ However, Dr. Metz fails to note that the authors break down this finding by type of departure and succession, and find that the abnormal return following a forced CEO departure with an insider replacement—the characteristics of the management change in this case—is negative and not statistically significant.³²² Furthermore, although Dr. Metz offers quotes from Worrell, *et al.* (1993), he fails to report that this study finds that if an insider is appointed to replace a fired key

³¹⁷ Furtado, E. and M. Rozeff, "The Wealth Effects of Company Initiated Management Changes," *Journal of Financial Economics*, 18(1), March 1987, 147-160 ("Furtado and Rozeff (1987)"), at pp. 149-151. Top executives include Chairmen, Vice-Chairmen, Presidents, and CEOs.

³¹⁸ In particular, the majority of the sample is made up of appointments to vacant posts (97 observations) and replacements of incumbents who remain with the firm in another capacity (201 observations). Furtado and Rozeff (1987), at pp. 150-151.

³¹⁹ Furtado and Rozeff (1987), at p. 153.

³²⁰ Furtado and Rozeff also examine a second sample of 62 top executive dismissals announcements between 1975 and 1982. The authors are not clear in how they define the various subsamples for which they estimate price reactions, but their results suggest that when a dismissal is simultaneously combined with an internal replacement, the price reaction is not statistically significant. Furtado and Rozeff (1987), at pp. 155-156.

³²¹ Huson, M., P. Malatesta, and R. Parrino, "Managerial Succession and Firm Performance," *Journal of Financial Economics*, 74(2), November 2004, 237-275 ("Huson, *et al.* (2004)"), at p. 258.

³²² Huson, *et al.* (2004), at p. 258.

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executive and these actions are announced simultaneously, then the abnormal return is not statistically significantly different from zero.³²³

118. There are also at least two other studies not cited by Dr. Metz that confirm that abnormal returns following the forced replacement of a top executive by an insider are not typically positive and statistically significant. Specifically, the Adams and Mansi (2009) study finds that the abnormal return is not statistically significantly different from zero when the CEO's departure is forced and the successor is an insider³²⁴ and the Borokhovich, *et al.* (1996) study finds that: "large *negative* abnormal returns are observed when insiders replace fired CEOs."³²⁵
119. Both the Worrell, *et al.* (1993) and the Borokhovich, *et al.* (1996) studies explain that inside successions are unlikely to be associated with positive and statistically significant abnormal returns because: "insiders are more likely to maintain the status quo."³²⁶ Worrell, *et al.* (1993) also finds that: "it appears that stockholders are likely to perceive outsiders as immediately beneficial but take a wait-and-see attitude toward insiders."³²⁷ These explanations coincide with the reactions of analysts, as discussed above. In particular, many analysts stated that they did not expect changes in strategy or that they expected Mr. Walsh to better implement existing strategies rather than making major changes to the company's strategy.³²⁸ Additionally, at least two analysts expected the market to wait and see how Mr. Walsh performed:
- "[T]he market will likely adopt a 'wait and see' approach to his leadership of this large and diverse business."³²⁹

³²³ Metz Report, ¶ 82; Worrell, D., W. Davidson III, and J. Glascock, "Stockholder Reactions to Departures and Appointments of Key Executives Attributable to Firings," *The Academy of Management Journal*, 36(2), April 1993, 387-401 ("Worrell, *et al.* (1993)"), at pp. 395-396.

³²⁴ Adams, J., and S. Mansi, "CEO turnover and bondholder wealth," *Journal of Banking & Finance*, 33(3), March 2009, 522-533 ("Adams and Mansi (2009)"), at p. 528.

³²⁵ Borokhovich, K., R. Parrino, and T. Trapani, "Outside Directors and CEO Selection," *The Journal of Financial and Quantitative Analysis*, 31(3), September 1996, 337-355 ("Borokhovich, *et al.* (1996)"), at pp. 338, 348 (emphasis added).

³²⁶ Borokhovich, *et al.* (1996), at p. 348; Worrell, *et al.* (1993), at p. 391 ("Announced inside successor appointments, however, are not likely to have the immediate positive impact of outsider announcements. Investors may welcome both the dismissal of a predecessor connected with poor performance and the appointment of any successor as a signal of a change in strategic direction but may see an inside successor as caught up in inertial forces.").

³²⁷ Worrell, *et al.* (1993), at p. 399.

³²⁸ See **Appendix C.8**.

³²⁹ See **Appendix C.8**, Nomura International (Hong Kong) Ltd., "Enter Sam Walsh," January 17, 2013, p. 1

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- “Investors are carefully watching new CEO Walsh’s approach to key issues... We believe investors... are looking for evidence that incoming CEO Walsh will more effectively manage the allocation of operating and free cash flow in the future.”³³⁰

120. Dr. Metz also cites the findings of Bonnier and Bruner (1989) that CEO turnover announcements are followed by a positive and statistically significant abnormal return.³³¹ However, the sample in that study is limited to financially distressed firms.³³² Because Rio Tinto was not financially distressed at the time of the management change announcement, the results of this study cannot be used to make inferences about the nature of price reaction to Rio Tinto’s management change announcement.³³³

121. To summarize, academic research on the impact of management changes provides evidence that Rio Tinto’s management change announcement would not be expected to affect Rio Tinto’s ADR price. The research evidence that Dr. Metz cites, on the other hand, is not relevant to Rio Tinto’s management change because it is based on analyses of announcements that do not match the characteristics of Rio Tinto’s announcement. Therefore, that evidence cannot inform any inferences about Rio Tinto’s stock price reaction to the announcement of its CEO’s replacement. Further, Dr. Metz ignores that the same studies he cites, as well as other studies, contain results that *are* applicable to Rio Tinto’s January 17, 2013 management change announcement and show either statistically insignificant or negative price reactions. In other words, the academic research on management changes refutes Dr. Metz’s contention that: “the change in leadership should be associated with upward pressure on the ADR price”³³⁴ and provides no support for his contention that the lack of a statistically significant negative return on January 17, 2013 was “likely due to

³³⁰ See **Appendix C.8**, Morgan Stanley, “Could change in capital allocation trigger rerating?” January 31, 2013, p. 3.

³³¹ Metz Report, ¶ 80; Bonnier, K. and R. Bruner, “An Analysis of Stock Price Reaction to Management Change in Distressed Firms,” *Journal of Accounting and Economics*, 11(1), February 1989, 95-106 (“Bonnier and Bruner (1989)”), at p. 99.

³³² The authors define distressed firms as those that reported negative quarterly earnings in the quarter prior to the CEO departure announcement and that eliminated dividends in the 24 month period prior to the announcement of management change with no reinstatement before the change. See Bonnier and Bruner (1989), at p. 96.

³³³ Rio Tinto did not meet the definition of being a “distressed firm” under the specifications of Bonnier and Bruner (1989). Specifically, Rio Tinto did not eliminate its dividend in the 24 months prior to the management change but instead increased its dividend by 15 percent in 2012. See Rio Tinto 2012 Annual Report, Performance Highlights.

³³⁴ Metz Report, ¶ 85.

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confounding positive information” in the form of the management change news that “may have countered a negative market negative [sic] reaction” to the RTCM Impairment Announcement.³³⁵

122. Based on the above, I conclude that the RTCM Impairment Disclosure did not have a measurable negative impact on Rio Tinto’s ADR price.

VIII. THE RTCM IMPAIRMENT HAD NO MATERIAL EFFECT ON RIO TINTO’S BOND PRICES AND CREDIT RATINGS, WHICH DR. METZ FAILED TO ANALYZE

123. While Dr. Metz provides “a basic, summary primer on the structure of the bond market and the impact that risk (or perceptions of risk) can have on a company’s cost of financing,”³³⁶ he provides no analysis of the effects of the RTCM Impairment Announcement on Rio Tinto’s bond prices or its credit ratings. As I discuss below, using an event study of Rio Tinto’s outstanding bonds, I find that Rio Tinto’s bond securities also did not experience a statistically significantly different from zero price decline following the RTCM Impairment Disclosure on January 17, 2013. Further, following the RTCM Impairment Disclosure, none of the three major credit rating agencies changed the credit rating they assigned to Rio Tinto, and my review of contemporaneous information from the ratings agencies confirms that the impairment did not affect Rio Tinto’s credit ratings.

A. The RTCM Impairment Disclosure Did Not Impact Rio Tinto’s Bond Prices

1. Bond Event Study Methodology

124. Because fixed income securities have higher priority on company cash flows than equities, if an announcement like an impairment does not impact the prices of a company’s equity securities in a negative manner, then it is unlikely that the prices of the company’s fixed income securities would be affected by the same announcement. This observation is especially true of companies that are not experiencing financial distress, which was the case for Rio Tinto at the time of the RTCM Impairment Disclosure.³³⁷ Even though the results of the equity event study did not show a

³³⁵ Metz Report, ¶ 63.

³³⁶ Metz Report, ¶ 116.

³³⁷ Moody’s gave Rio Tinto’s bonds an A3 rating. *See Exhibit 2.* Moody’s considers bonds with an A rating (including A1, A2, and A3) to be “upper-medium-grade” and are “subject to low credit risk.” Furthermore, According to a study authored by Dr. Metz showing that Moody’s ratings are “highly accurate and stable,” companies with such a rating had a default rate of 0.57 percent over a three year period. *See* Moody’s, “Rating Scale and Definitions,” available at

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statistically significantly different from zero impact on the price of Rio Tinto's equity securities, and Rio Tinto was not in financial distress, I also conduct a bond event study to assess if Rio Tinto's bond prices were affected by the RTCM Impairment Disclosure.

125. As of January 17, 2013, Rio Tinto had 25 U.S. dollar-denominated bonds outstanding, with a combined face value totaling approximately \$21.7 billion.³³⁸ The outstanding bonds had:

- Issue dates that ranged from December 3, 1993 to August 16, 2012;
- Maturity dates that ranged from July 15, 2013 to August 21, 2042;
- Term-to-maturity (as of January 2013) that ranged from less than 1 year to 29 years;
- Face values that ranged from \$100 million to \$2,500 million; and
- Coupon rates that ranged from 1.13 percent to 9.00 percent.

126. For my bond event-study analysis I have focused on the eight most actively-traded of Rio Tinto's U.S.-issued bonds that were outstanding as of January 17, 2013 and also traded on both January 16 and January 17, 2013.³³⁹ In the period starting six months prior to the RTCM Impairment Disclosure on January 17, 2013 (or from the issue date if the issue date is less than six months prior to January 17, 2013), each of the eight bonds traded on at least 85 percent of the potential trading days.³⁴⁰ In **Exhibit 2**, these bonds are shown in gray-shaded rows.

127. To measure each bond's abnormal return on January 17, 2013, I employ a Matching Portfolio methodology described in economic research.³⁴¹ In particular, I calculate the abnormal return for each bond as its daily return less the return on a benchmark index of similarly-rated bonds, which measures the portion of return that cannot be explained by market factors that also affect other similarly-rated bonds. I test for statistical significance of this abnormal return by using an estimate

<https://www.moody.com/sites/products/productattachments/ap075378_1_1408_ki.pdf>; "Moody's Gives Itself High Marks," *The Wall Street Journal*, January 15, 2015.

³³⁸ **Exhibit 2.** In addition, Rio Tinto had two Euro-denominated bonds with a combined face value of \$1,607 million and one Pound Sterling-denominated bond with a face value of \$804 million as of December 31, 2012 (Rio Tinto Finance Plc Euro Bonds 2.0 percent due 2020, Rio Tinto Finance Plc Euro Bonds 2.875 percent due 2024, Rio Tinto Finance Plc Sterling Bonds 4.0 percent due 2029). See Rio Tinto 2012 Annual Report, p. 179.

³³⁹ Bond price and volume data are from Bloomberg, which uses FINRA's Trade Reporting and Compliance Engine (TRACE) database as source. For details, see Bloomberg, "Pricing Data," available at <<https://www.bloomberg.com/professional/product/pricing-data/>>.

³⁴⁰ I use the most frequently traded bonds because my methodology relies upon having a daily price return series.

³⁴¹ Maul, D., and D. Schiereck, "The bond event study methodology since 1974," *Review of Quantitative Finance and Accounting*, 48(3), March 2017, 749-787, at p. 774.

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of the standard deviation of the abnormal returns measured over an estimation period that spans 126 trading days (approximately six calendar months) prior to January 17, 2013.

128. I use the Bank of America Merrill Lynch US Corp A Total Bond Return Index (“BAML A Index”) and the Bank of America Merrill Lynch US Corp BBB Total Bond Return Index (“BAML BBB Index”) as benchmark indices which would have bonds of similar credit quality to Rio Tinto’s.³⁴²

2. Bond Event Study Results

129. I summarize the results of my bond event study in **Exhibit 11**. None of the eight bonds included in this analysis experienced a significant abnormal return on January 17, 2013, using either the BAML A Index or the BAML BBB Index as the benchmark index (*see Exhibit 11*). I also considered the returns on a value-weighted portfolio of all Rio Tinto bonds outstanding as of January 17, 2013. The abnormal return on this portfolio was also not statistically significantly different from zero on January 17, 2013 using either of the benchmark indices (*see Exhibit 11*). The evidence from this analysis is consistent with the conclusion that Rio Tinto’s bonds did not experience statistically significantly different from zero price declines following Rio Tinto’s disclosures on January 17, 2013. As with the equity event study, there was no confounding information released on January 17, 2013 (that is, the aluminium asset impairment and management change) that would be expected to cause an increase in Rio Tinto’s bond prices. Therefore, I conclude that Rio Tinto’s RTCM Impairment Disclosure did not have a measurable impact on its bond prices.

B. The RTCM Impairment Disclosure Did Not Impact Rio Tinto’s Credit Ratings

130. As I mentioned above, in presenting his primer on the bond market, Dr. Metz fails to analyze how the January 2013 RTCM Impairment Disclosure affected Rio Tinto’s credit ratings. In this section, I explore these considerations. Further, although Dr. Metz describes the role of rating agencies in general, he inexplicably fails to describe how these agencies assign ratings to mining companies.
131. Rio Tinto’s debt was rated by all three major U.S. rating agencies—Moody’s, S&P, and Fitch—at the time of the RTCM Impairment Disclosure. Following the RTCM Impairment Disclosure, none

³⁴² The BAML US Corp A Total Bond Return Index tracks the performance of US dollar denominated corporate debt publicly issued in the United States with a given investment grade rating A. Similarly, the BAML US Corp BBB Total Bond Return Index tracks the performance of US dollar denominated corporate debt publicly issued in the United States with a given investment grade rating BBB. Index data are from FRED, Federal Reserve Bank of St. Louis, “ICE BofAML US Corp A Total Return Index Value,” available at <<https://fred.stlouisfed.org/series/BAMLCC0A3ATRIV>>; FRED, Federal Reserve Bank of St. Louis, “ICE BofAML US Corp BBB Total Return Index Value,” available at <<https://fred.stlouisfed.org/series/BAMLCC0A4BBBTRIV>>.

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of the three agencies changed the credit rating they assigned to Rio Tinto, and my review of contemporaneous information from the ratings agencies confirms that the impairment did not affect Rio Tinto's credit ratings. In the sections below, I provide: (1) a description of credit ratings in general, including how credit rating agencies assign ratings to companies like Rio Tinto and how impairment charges affect credit ratings, and (2) an assessment of the impact that the RTCM Impairment Disclosure had on Rio Tinto's credit ratings.

1. Credit Ratings

132. Credit ratings are the rating agency's opinion on an entity's overall capacity to meet financial obligations on a timely basis.³⁴³ While each rating agency has its own distinct methodology for evaluating credit risk and assigning ratings, there are some features of the credit rating process that are common to all agencies. For instance, in evaluating a corporate entity's credit profile, all rating agencies consider both business and financial characteristics and both qualitative and quantitative factors, including factors that are specific to the industry.³⁴⁴ An analysis of key financial ratios is a critical part of the rating process. Most rating agencies calculate financial ratios only after adjusting financial statements. The adjustments are made in an effort to improve comparability across industry groups and countries and to better capture the underlying economics.³⁴⁵ As discussed below, the three agencies typically excluded impairment charges in calculating financial ratios when evaluating mining companies like Rio Tinto.

a. Moody's

133. Moody's mining company ratings reflect: "Moody's opinion as to the relative competitive position, profitability and financial strength" of the rated companies.³⁴⁶ Moody's considers five sets of factors, some of which are specific to the mining industry, to analyze and assess credit risk in mining companies: (1) mining reserves, (2) cost efficiency and profitability, (3) financial policies,

³⁴³ See, for example, United States Securities and Exchange Commission, "Updated Investor Bulletin: The ABCs of Credit Ratings," available at <<https://www.investor.gov/additional-resources/news-alerts/alerts-bulletins/updated-investor-bulletin-abcs-credit-ratings>>.

³⁴⁴ Moody's Investors Service, "Special Comment: The Distribution of Common Financial Ratios by Rating and Industry for North American Non-Financial Corporations: July 2006," August 2006, p. 1.

³⁴⁵ See, for example, Moody's Investors Service, "Financial Statement Adjustments in the Analysis of Non-Financial Corporations," December 21, 2016 ("Moody's Financial Statement Adjustments, 2016"), pp. 1-2.

³⁴⁶ Moody's Investors Service, "Global Mining Industry: Rating Methodology," September 2005 ("Moody's Global Mining Methodology"), p. 2.

(4) financial strength, and (5) business diversity and size.³⁴⁷ Among other things, these factors are designed to assess the company's ability to survive a downturn and be positioned to grow when the opportunity arises, as well as its ability to generate earnings and cash flow sufficient to cover costs, capital expenditures, dividends, and interest expense.

134. According to Moody's: "[r]eserves ... have perhaps the single most significant impact on a mining company's success." Moody's measures reserves with a metric called Indicated Life, which estimates how long current reserves will last given the most recent production amounts. Moody's does not include in its calculation any commodity that represents less than 15 percent of sales for the company.³⁴⁸ The Energy group as a whole contributed approximately 11.3 percent of Rio Tinto's 2012 consolidated revenue, meaning any commodity in that group, including coal, would not be included in Moody's reserves calculation.³⁴⁹ To evaluate cost efficiency and profitability Moody's considers three ratios: EBIT margin, return on average tangible assets, and "other" liabilities to book equity.³⁵⁰ Financial policies are important to Moody's because they indicate a company's willingness to take on debt, and the subsequent ability to survive a downturn. This factor focuses more on qualitative measures, but does include a calculation of the company's debt to capitalization and debt to EBITDA.³⁵¹ Financial strength measures a company's ability to generate earnings and cash flow sufficient to cover costs, capital expenditures, dividends, and interest expense. Moody's considers three ratios for this factor: interest coverage, cash from operations less dividends to debt, and free cash flow to debt.³⁵² Business diversity and size are important because a large, diversified company has reduced cyclicity and greater flexibility in starting and stopping projects. Diversity is scored on five elements and a company is given a total business diversity score. Size is based on the most recent annual revenues. Moody's deems top line revenue as

³⁴⁷ Moody's Global Mining Methodology, pp. 1, 3-4.

³⁴⁸ Moody's Global Mining Methodology, p. 5.

³⁴⁹ See Rio Tinto 2012 Annual Report, pp. 219-220.

³⁵⁰ Moody's calculates earnings before interest and taxes ("EBIT") margin by taking a five-year average of EBIT and dividing it by annual revenue. Return on average tangible assets is a five-year average of annual EBIT divided by average tangible assets. "Other" liabilities to book equity is the most recent year's other liabilities divided by book equity. See Moody's Global Mining Methodology, p. 6.

³⁵¹ Debt to capitalization is the most recent year's debt divided by capitalization. Debt to earnings before interest, taxes, depreciation, and amortization ("EBITDA") is a five-year average of debt divided by EBITDA. Debt and equity amounts are calculated using Moody's standard adjustments. See Moody's Global Mining Methodology, p. 8.

³⁵² Interest coverage is calculated as a five-year average of annual EBIT to interest expense. A five-year average is also used for cash from operations less dividends to debt and the free cash flow to debt. EBIT and debt are adjusted by Moody's. See Moody's Global Mining Methodology, p. 10.

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important to mining companies, as revenues of at least \$5 billion are needed to map to an A credit rating.³⁵³

135. For the five key factors in the mining industry, there are a total of fifteen metrics, ten of which are purely financial. Moody's then maps each of the fifteen metrics described above to broad rating categories which are then compiled into an indicated rating for the company.³⁵⁴ Moody's ratings range from (lowest to highest) C to Aaa. Ratings of Baa3 and above are considered "Investment Grade," and those Ba1 and below are considered "Non-Investment Grade," which indicates substantial credit risk.³⁵⁵
136. Consistent with the methodology described above, Moody's Credit Opinion for Rio Tinto from February 2013 showed that Moody's methodology included six weighted ratings factors: (1) reserves (8 percent), (2) cost efficiency and profitability (17 percent), (3) financial policies (17 percent), (4) financial strength (25 percent), (5) business diversity and size (33 percent), and (6) "other" liabilities adjustments (0 percent).³⁵⁶ The Moody's February 2013 Credit Opinion for Rio Tinto identified seven ratios as "Key Indicators," which Moody's used to evaluate factors 2, 3, and 4.³⁵⁷ These financial ratios include Mining EBIT Margin, Debt/Mining EBITDA, and Mining EBIT/Interest Expense, which measure a company's profitability, leverage, interest coverage, and financial risk in general.³⁵⁸ Moody's calculates all ratios using its standard accounting adjustments, which include adjustments made to exclude: "unusual and non-recurring items."³⁵⁹ Moody's states

³⁵³ Moody's Global Mining Methodology, pp. 11-15.

³⁵⁴ Moody's Global Mining Methodology, p. 4.

³⁵⁵ The numerical modifiers 1, 2, and 3, where 1 indicates a ratings position in the higher end of the rating category; and 3 indicates a ranking in the lower end of that generic rating category. *See* Moody's, "Rating Scale and Definitions," available at <https://www.moody's.com/sites/products/productattachments/ap075378_1_1408_ki.pdf>.

³⁵⁶ The six factors listed are the same as the five factors discussed above along with a sixth factor, "other" liabilities adjustments, which was assigned zero weight. *See* Moody's Investors Service, "Credit Opinion: Rio Tinto, February 4, 2013," RT_SEC_00101930-936 ("Moody's February 2013 Credit Opinion"), at 934.

³⁵⁷ Moody's February 2013 Credit Opinion, at RT_SEC_00101930, 934.

³⁵⁸ EBIT is an acronym for earnings before interest and taxes. It is calculated by subtracting Depreciation and Amortization from EBITDA. FCF and CFO stand for Free Cash Flow and Cash Flow from Operations, respectively. The financial ratios calculated by Moody's specific to Rio Tinto include: earnings before interest and taxes ("EBIT") margin, return on average tangible assets, debt to book capitalization, debt to EBITDA, interest coverage, free cash flow to debt, and cash flow from operations less dividends to debt. *See* Moody's February 2013 Credit Opinion, at RT_SEC_00101930.

³⁵⁹ Moody's February 2013 Credit Opinion, at RT_SEC_00101930. *See also* Moody's Investors Service, "Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations - Part I," February 2006, p. 3.

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that: “When computing credit-relevant ratios, we use adjusted data and base our ratings, in part, on those ratios.”³⁶⁰ Regarding asset impairments specifically, Moody’s makes adjustments: “based on individual [company] facts and circumstances.”³⁶¹ Given that an impairment charge is typically a non-recurring item, it would be expected that Moody’s would exclude that item from its ratio calculations.

137. Two of the seven ratios mentioned (FCF/Debt and (CFO-Dividends)/Debt) in Moody’s February 2013 Credit Opinion are not affected by impairment charges, whereas the others will be affected only to the extent that such an expense is deducted from a calculation of Rio Tinto’s income metrics such as EBITDA and EBIT. Rio Tinto presents EBITDA without deducting impairment charges. For instance, Rio Tinto’s 2011 Annual Report reports both EBITDA of \$28,636 million and Underlying EBITDA of \$28,521 million, neither of which deducted impairment charges.³⁶²
138. Moody’s assigned Rio Tinto an A3 rating using Rio Tinto’s historical financials and an A1 rating using forward-looking financials as of February 4, 2013.³⁶³

b. S&P

139. S&P’s ratings methodology is also tailored to the type of issuer and involves an evaluation of both business risk (including profitability) and financial risk.³⁶⁴ Financial risk for mining firms is assessed in five categories, namely: (1) accounting characteristics, (2) financial governance and risk tolerance, (3) cash flow adequacy, (4) capital structure and leverage, and (5) liquidity/short-term factors.³⁶⁵ S&P notes that due to the mining industry’s cyclical and volatile nature, companies need a conservative financial policy and to maintain strong financial ratios in order to protect

³⁶⁰ Moody’s Financial Statement Adjustments, 2016, p. 1. “To reclassify the effects of unusual or nonrecurring transactions and events to a separate category on the income and cash flow statements. Our analytical ratios that include income or operating cash flows generally exclude amounts in those separate categories.” See Moody’s Financial Statement Adjustments, 2016, p. 4.

³⁶¹ Moody’s Financial Statement Adjustments, 2016, p. 2.

³⁶² Rio Tinto 2011 Annual Report, p. 210.

³⁶³ See Moody’s February 2013 Credit Opinion, at RT_SEC_00101933-934.

³⁶⁴ S&P Global Ratings, “General: Principles of Corporate and Government Ratings,” June 26, 2007, SEC Exhibit 440, p. 1.

³⁶⁵ S&P Global Ratings, “Industrials: Key Credit Factors: Methodology And Assumptions On Risks In The Mining Industry,” June 23, 2009, SEC Exhibit 441 (“SEC Exhibit 441”), pp. 9-11.

against downturns.³⁶⁶ Based on the five sets of factors considered, a company is then assigned one of six financial risk scores: Minimal, Modest, Intermediate, Significant, Aggressive, and Highly Leveraged.³⁶⁷

140. Similar to Moody's, S&P also excludes impairment charges when calculating financial ratios to evaluate Rio Tinto's profitability, leverage, interest coverage, and financial risk in general.³⁶⁸ For example, in its ratio analysis of Rio Tinto's FY 2012 financials, S&P uses an "Adjusted EBITDA" calculation that excludes impairment charges.³⁶⁹ S&P also shows a reconciliation between Rio Tinto's reported operating income in 2012 and S&P's adjusted EBIT. Since Rio Tinto reports operating income after deducting impairment charges, one of the adjustments S&P makes is to add back the \$13.95 billion in impairment charges and, as a result, S&P's EBIT and EBITDA calculations are not impacted by the impairment charge.³⁷⁰
141. The business risk profile and financial risk profile scores for a mining company are then assessed together and S&P issues a credit rating for the issuer, ranging from AAA (best) to CCC+ (lowest). A mining company with an Excellent business risk profile and a Minimal financial risk profile is likely to receive the best rating, AAA, while a mining company with a Vulnerable business risk profile and a Highly Leveraged financial risk profile is likely to receive the lowest rating, CCC+.³⁷¹

³⁶⁶ SEC Exhibit 441, p. 10.

³⁶⁷ SEC Exhibit 441, Table 1, p. 2.

³⁶⁸ S&P states that: "Typically, we make a number of analytical adjustments to the reported financial statements to enhance the comparability of the data for our analysis." *See* SEC Exhibit 441, p. 9.

³⁶⁹ In a credit report from April 2013, S&P identifies Rio Tinto's FY 2012 "Reported EBITDA" of \$17.2 billion (*see* S&P Capital IQ Global Credit Portal, "Rio Tinto PLC," April 18, 2013, SEC Exhibit 437 ("SEC Exhibit 437"), pp. 6-7). Starting with this "Reported EBITDA" number (\$17.2 billion), which is before subtracting impairment charges, S&P makes a series of adjustments to arrive at "Adjusted EBITDA;" none of the adjustments are for non-cash impairment charges. Although \$17.2 billion is smaller than the EBITDA number mentioned in Rio Tinto's FY 2012 annual report (\$19.4 billion), the difference is not commensurate with Rio Tinto's \$17.2 billion pretax impairment charge in FY 2012. Rio Tinto's calculation of EBITDA is described in Rio Tinto 2012 Annual Report (*see* Rio Tinto 2012 Annual Report, p. 220).

³⁷⁰ SEC Exhibit 437, pp. 6-7.

³⁷¹ SEC Exhibit 441, Table 1. Table 1 excludes ratings below CCC+, which would indicate that the company is either "highly vulnerable to nonpayment" or "in default or in breach of an imputed promise." *See* S&P Global Ratings, "S&P Global Ratings Definitions," available at <https://www.standardandpoors.com/en_US/web/guest/article/-/view/sourceId/504352>.

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142. In May 2012, S&P gave Rio Tinto a rating of A-/A-2, with a Strong business risk profile and Intermediate financial risk profile.³⁷² This rating and profile were maintained in a November 2012 update³⁷³ and affirmed in a February 2013 update following the impairment announcement.³⁷⁴

c. Fitch

143. Fitch, the third rating agency, considers qualitative factors in its rating methodology such as sector risk, country risk, management strategy and governance, group structure, and business profile. The quantitative, or financial factors, are cash flows and profitability, financial structure, and financial flexibility.³⁷⁵ In evaluating the financial profile of a company, Fitch emphasizes cash-flow measures of earnings, coverage, and leverage substantially more than equity-based ratios such as debt-to-equity and debt-to-capital.³⁷⁶ Fitch also places more weight on trends in ratios than the level of any individual ratio, as an individual ratio represents a performance measure at only a single point in time.³⁷⁷ In its evaluation of mining companies, Fitch considers several financial ratios that measure profitability, leverage, interest coverage, and liquidity. These ratios include numerous cash flow based metrics including: funds from operations (“FFO”) margin, free cash flow (“FCF”) margin, FCF to adjusted debt, and FFO interest coverage. They also include earnings based metrics like operating EBITDAR margin and total adjusted debt to operating EBITDAR, where EBITDAR is EBITDA plus gross rental expense.³⁷⁸ As with Moody’s and S&P, cash flow metrics such as FFO and FCF will typically not be affected by a non-cash charge such as impairment expense. Whether income metrics such as EBITDA are affected by impairments depends on Fitch’s adjustment policies. For example, Fitch’s definition of operating EBITDA: “usually excludes extraordinary items, such as asset write-downs and restructurings,” unless the charge is “recurring.” This is

³⁷² S&P Global Credit Portal RatingsDirect, “Rio Tinto PLC,” May 31, 2012, RT_SEC_00174126-137, at 127, 135. S&P Ratings Services RatingsDirect, “Summary: Rio Tinto PLC,” November 29, 2012, Defendants Exhibit 100, SPGI-RIOTINTO-0013676-699, at 678.

³⁷³ S&P Ratings Services RatingsDirect, “Summary: Rio Tinto PLC,” November 29, 2012, Defendants Exhibit 100, SPGI-RIOTINTO-0013676-699, at 678.

³⁷⁴ S&P Ratings Services, “Research Update: Rio Tinto Outlook Revised to Negative On Uncertain Deleveraging Prospects; ‘A-/A-2’ Ratings Affirmed,” February 25, 2013, SEC Exhibit 435 (“SEC Exhibit 435”), RT_SEC_00176674-680, at 675.

³⁷⁵ FitchRatings, “Corporate Rating Criteria: Master Criteria,” February 19, 2019, pp. 1-5.

³⁷⁶ FitchRatings, “Corporate Rating Criteria: Master Criteria,” February 19, 2019, p. 5.

³⁷⁷ FitchRatings, “Corporate Rating Criteria: Master Criteria,” February 19, 2019, p. 5.

³⁷⁸ FitchRatings, “Corporate Rating Criteria: Master Criteria,” February 19, 2019, pp. 5, 50-51; FitchRatings, “Sector Navigators: Addendum to the Corporate Rating Criteria,” March 2018, p. 137.

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further shown in the formula for operating EBITDA, which includes an: “adjustment for Non-Recurring/Non-Recourse items.”³⁷⁹

2. *Impact of the RTCM Impairment Disclosure on Rio Tinto’s Credit Rating*

144. Following the RTCM Impairment Disclosure, none of the three major credit rating agencies changed Rio Tinto’s rating. This lack of rating change is consistent with one-time, non-cash charges like impairments not affecting the key ratios used by the ratings agencies to evaluate mining companies and the opinions expressed by personnel working at the agencies at the time of the impairment.

a. *Moody’s*

145. Just after the January 2013 RTCM Impairment Disclosure, Moody’s announced that the \$14 billion impairment had no current impact on Rio Tinto’s A3 rating and stable outlook.³⁸⁰ In a credit opinion issued a few days later, Moody’s maintained this A3 rating and stable outlook.³⁸¹ This opinion is not surprising—as discussed above, the key financial ratios used by Moody’s in evaluating credit risk generally do not take such impairments into account.

b. *S&P*

146. In addition to the absence of any rating change, other evidence in the record corroborates the lack of significance of the RTCM Impairment Disclosure for S&P’s rating of Rio Tinto. In an internal email conversation at S&P immediately following the impairment announcement on the issue of whether the outlook for Rio Tinto should be changed from stable to negative, personnel at S&P responded: “I don’t think the write-off should justify such an action, even if the CEO went home.”³⁸² This sentiment was later echoed by an S&P manager designated as “Director - Analytical

³⁷⁹ FitchRatings, “Corporate Rating Criteria: Master Criteria,” February 19, 2019, pp. 47, 49.

³⁸⁰ Moody’s Investors Service, “Announcement: Moody’s says Rio Tinto’s announcement of \$14 billion impairment has no current impact on ratings,” January 18, 2013, p. 1.

³⁸¹ Moody’s February 2013 Credit Opinion noted that: “The approximate \$14 billion after tax non-cash impairment charge taken in 2012, while credit negative, does not currently impact the rating.” In maintaining the A3 credit rating, Moody’s highlighted Rio Tinto’s relative strengths, including its geographical and product diversity, its low cost iron ore production, its moderate debt levels relative to its asset base, and strong cash generation capabilities. Moody’s also considered risks due to pricing and demand volatility, cost pressures, royalty and tax pressure, slowing steel production, etc., and risks associated with Rio Tinto developing projects in countries where it could face challenges related to infrastructure, local politics, regulations, and the legal system. Moody’s February 2013 Credit Opinion at 931, 932, 934.

³⁸² Email from Elad Jelasko, January 17, 2013, SEC Exhibit 433, SPGI-RIOTINTO-0013286-287, at 286.

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Manager Corporate Ratings” in an email that said: “[the write-off] does not deserve any reaction from us at this stage.”³⁸³

147. Furthermore, in its February 25, 2013 research update, more than a month after the RTCM Impairment Disclosure, S&P stated that it had revised its outlook on Rio Tinto plc from Stable to Negative, but affirmed the current ratings of A-/A-2, and maintained the same Strong business risk profile and Intermediate financial risk profile.³⁸⁴ The report discussed neither the RTCM nor the aluminum impairments and, instead, focused on Rio Tinto’s leverage being higher than expected. The higher leverage resulted from a \$5.2 billion increase in debt year-over-year: “on the back of record high capex outlays of \$17 billion and relatively weak cash flow generation.”³⁸⁵ S&P’s adjusted debt, which incorporates asset-retirement obligations, pensions, operating leases, and surplus cash, totaled \$33 billion, which was above the \$30 billion level commensurate with Rio Tinto’s current rating.³⁸⁶ Based on this level, it does not appear that Rio Tinto’s increased leverage and S&P’s revised outlook were in any way a result of the RTCM impairment.
148. Deposition testimony from Andrey Nikolaev, the S&P analyst for companies in the metals and mining sector, including Rio Tinto, further confirms that the RTCM impairment did not impact S&P’s decision to revise its outlook from stable to negative.³⁸⁷ Mr. Nikolaev testified that because large long-term investments like RTCM require large cash outflows in the first few years of the project, rating agencies consider them to be bad for the company’s financial risk in the near term, but consider them to be good for the company’s business risk if they are expected to improve the quality of the business in the long-term.³⁸⁸ Therefore, if an impairment signals a delay or scaling back of an underperforming project, it can improve a company’s credit rating due to the decrease in expected cash outflow.

³⁸³ Email from Karl Nietvelt, January 17, 2013, SEC Exhibit 434, SPGI-RIOTINTO-0013297.

³⁸⁴ SEC Exhibit 435, at 675, 676.

³⁸⁵ SEC Exhibit 435, at 675.

³⁸⁶ SEC Exhibit 435, at 675.

³⁸⁷ Deposition of Andrey Nikolaev, March 7, 2019 (“Nikolaev Deposition”), 76:13-19.

³⁸⁸ Nikolaev Deposition, 93:6-94:1.

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149. The RTCM Impairment Announcement also did not affect Fitch's rating of Rio Tinto. When Fitch's Head of Basic Materials was asked how the \$14.4 billion in write downs would impact Rio Tinto's credit rating in a February 2013 email, he responded: "it was non-cash so no[] rating impact."³⁸⁹ This response is consistent with Fitch's methodology which, as discussed above, uses key ratios to evaluate mining companies like Rio Tinto that do not include one-time non-cash impairment charges.³⁹⁰
150. This finding was also confirmed when the RTCM impairment was not mentioned by Fitch in its comments released on January 17, 2013. In that announcement, which focused on aluminium-related developments, Fitch stated that: "[T]he [aluminium] write-down will not damage its credit rating because the charge is non-cash and because the company's real strength is in its iron ore business, which remains strong with record production levels announced in its latest quarterly production statement."³⁹¹ Even though the RTCM impairment was not mentioned, these arguments for a lack of ratings impact apply to that impairment as well.
151. To summarize, none of the ratings agencies changed their ratings for Rio Tinto's debt following the RTCM Impairment. In other words, the RTCM impairment did not affect Rio Tinto's credit rating.³⁹² This result is consistent with my review of the ratings agencies' methodologies which shows that a non-cash, non-recurring impairment charge typically does not affect any of the credit metrics used by the agencies.

³⁸⁹ Email from Peter Archbold, February 26, 2013, RIOTINTO-FITCH 002190.

³⁹⁰ FitchRatings, "Corporate Rating Criteria: Master Criteria," February 19, 2019, pp. 49-51.

³⁹¹ FitchRatings, "Fitch: Rio Tinto Charge Underlines Weak Outlook for Aluminium," January 17, 2013, RIOTINTO-FITCH 002116-118, at 116.

³⁹² In addition, following Rio Tinto's acquisition of control of Riversdale, Fitch and Moody's did not change their ratings for Rio Tinto, while S&P upgraded Rio Tinto's long-term credit rating from BBB+ to A- on April 18, 2011. An S&P research report stated that the rationale for the upgrade was Rio Tinto substantially reducing its debt and improving the schedule at which its existing debt would come due rather than because of the Riversdale acquisition. In fact, S&P provided the upgrade even after considering that the Riversdale acquisition would be a near term use of cash for Rio Tinto. *See* Standard & Poor's RatingsXpress Credit Research, "Research Update: Global Mining Group Rio Tinto Upgraded To 'A-' After Reduction In Debt, Improved Maturity Profile; Outlook Stable," April 18, 2011.

IX. AN ALTERNATIVE RTCM IMPAIRMENT DISCLOSURE AT HY 2012 WOULD HAVE HAD NO IMPACT ON RIO TINTO'S CREDIT RATINGS, AUGUST 2012 BOND OFFERING, ADR PRICE, OR UNDERLYING EARNINGS (AS COMPARED TO ANALYSTS' CONSENSUS ESTIMATES)

152. In this section, I consider the impact that an earlier disclosure of the RTCM impairment would have had on Rio Tinto's credit ratings, August 2012 bond offering, ADR price, or Underlying Earnings (as compared to analysts' consensus estimates). Dr. Metz performed no such analysis. I refer to a hypothetical earlier announcement of RTCM impairment charges in the company's HY 2012 Earnings Release on August 8, 2012 as the Alternative RTCM Impairment Disclosure. For the purpose of this analysis, I assume that the size of the impairment would have been the same as the size of the actual impairment taken.³⁹³
153. If the Alternative RTCM Impairment Disclosure had occurred on August 8, 2012 as part of Rio Tinto's HY 2012 Earnings Release, it would not be expected to affect Rio Tinto's credit ratings at the time. Given there was no downgrade following the actual impairment along with the aluminium impairment in January 2013, as discussed in the prior section, there is no reason to believe the RTCM impairment on its own at an earlier date would have caused a ratings downgrade. As discussed above, the ratios relied upon by the ratings agencies when assessing risks and determining credit ratings for mining companies generally exclude impairment charges. In addition, an earlier recognition may have improved liquidity by potentially eliminating certain RTCM related expenditures to the extent that the impairment implied that Rio Tinto would invest less to develop RTCM. Given that the alternative impairment would not affect Rio Tinto's credit rating or its credit risk, I see no reason to believe that the Alternative RTCM Impairment Disclosure would have impacted the prices of the bonds issued in August 2012.³⁹⁴
154. Dr. Metz did not perform a similar analysis. Despite mentioning the allegation that Rio Tinto profited from its alleged wrongdoing "when it issued \$5.5 billion in U.S. bonds and notes where the prospectuses for those bonds contained false information about the Riversdale mining

³⁹³ I understand that Plaintiff Expert, Mr. Christopher Drewe, opined that had Rio Tinto performed an impairment test as in HY 2012, it would: "have led to a material impairment in Rio Tinto's 2012 Interim Financial Statements." See Expert Report of Christopher Drewe FCA, December 20, 2019, ¶ 2.1.5 ("Drewe Report"). However Mr. Drewe does not quantify the magnitude of this hypothetical impairment other than to say it would be "material," which he defines to be \$250 million or more. See Drewe Report, ¶ 13.1.2.(a).

³⁹⁴ As Dr. Metz states: "market perceptions of risk impact a company's cost of issuing debt." Metz Report, ¶ 104. Here, he cites no evidence that the Alternative RTCM Impairment Disclosure would have changed the market's perceptions of Rio Tinto's credit risk.

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assets,”³⁹⁵ Dr. Metz provides no analysis of this allegation or quantification of any alleged illicit profit. Although Dr. Metz presents a calculation to show how “the price of those bond offerings might have changed had the bonds been rated one notch higher (A2) or one notch lower (Baa1),”³⁹⁶ he provides no analysis or opinion on how those bonds would have been either rated or priced had the prospectuses not contained the allegedly false information. As I have discussed, there is no evidence that Rio Tinto’s bond ratings would have differed at the time, so this calculation is of no relevance.

155. In addition, it is unlikely that such an alternative impairment would have negatively affected Rio Tinto’s ADR price at the time. As I discussed above, an impairment charge taken on RTCM’s assets did not affect the ADR price when the impairment was actually announced in January 2013 because the risks associated with RTCM were already acknowledged by market participants. Furthermore, market participants acknowledged these risks since before the HY 2012 Earnings Release. In particular, market participants recognized that the limited infrastructure for transporting and exporting coal from Mozambique was a challenge of exploiting coal from the region, that the company’s barging proposal had been rejected by the government of Mozambique in March 2012, that sovereign risk could limit Rio Tinto’s ability to profit off any infrastructure it developed, and that RTCM was an early stage development project and therefore there were risks related to the quantity and quality of the coal to be mined.³⁹⁷ Prior to the HY 2012 Earnings Release, multiple analysts were of the view that the market placed little value on RTCM because of the risks associated with its development.³⁹⁸
156. In addition, the Alternative RTCM Impairment Disclosure would not affect consensus earnings or the earnings surprise at HY 2012 because one-time charges like the RTCM Impairment are not

³⁹⁵ Metz Report, ¶ 26. I understand that claims related to \$3.0 billion in bonds issued March 2012 have been dismissed. *See* Motion to Dismiss Order, pp. 37-40.

³⁹⁶ In fact, he expressly states that his calculation is intended to be a “hypothetical illustration” and not to suggest that the prices he calculated would have been obtained had Rio Tinto’s bonds actually had a different rating upon issuance. *See* Metz Report, ¶ 26 and Table 1.

³⁹⁷ **Appendix C.7.**

³⁹⁸ For example, in an April 24, 2012 report, a Deutsche Bank analyst stated that: “we calculate that there is no value reflected in the share price for these compelling growth projects [including RTCM].” *See Appendix C.7*, Deutsche Bank, “The Big 5,” April 24, 2012, p. 5. Similarly, in a July 5, 2012 report, a Société Générale analyst stated that: “[m]ost analysts seem to assign little or no value to Rio Tinto’s Riversdale projects.” *See Appendix C.7*, Société Générale, “Statistical modelling and near-term catalysts indicate Rio Tinto should outperform BHP B,” July 5, 2012, p. 5.

included in analysts' earnings estimates.³⁹⁹ As I discussed above, analysts do not focus on GAAP or IFRS earnings but an alternate "Street" measure of earnings, which generally excludes a variety of expenses required under those standards such as impairment expenses and similar non-recurring and non-cash items.⁴⁰⁰ For Rio Tinto, this measure of earnings would be closer to what Rio Tinto describes as Underlying Earnings, which the company calculates by excluding from IFRS earnings: non-cash and non-recurring items such as impairment charges, net profits on acquisitions or disposal of interests in businesses, profits from discontinued operations, exchange and derivative gains and losses, etc.⁴⁰¹ Consistent with analysts' ignoring impairment charges in their estimates of Rio Tinto's earnings is the fact that in the weeks after the Impairment Disclosure and before the release of FY 2012 earnings, analysts continued to forecast a positive earnings per share ("EPS") for FY 2012 in the range of approximately \$4-\$6 per share even though the EPS under IFRS would reflect a loss once the impairment charges were recognized.⁴⁰² Further, in the week beginning on the day of Rio Tinto's Impairment Disclosure on January 17, 2013, only three analysts out of 16 lowered their 2012 EPS estimates (by \$0.36 per share, \$1.40 per share, and \$6.06 per share, respectively), despite the fact that the Alcan and RTCM impairments together would have amounted to a reduction in EPS estimates under IFRS of approximately \$7.60 per share.⁴⁰³ Thus, similar to analysts' reactions in January 2013, an earlier recognition of RTCM impairment in HY 2012 income would not have affected analysts' consensus earnings estimates or the magnitude of the earnings surprise that the market is known to react to.

³⁹⁹ Earnings surprise is measured as the difference between "actual" earnings and analysts' consensus estimate of those earnings, both of which typically exclude impairment charges. "Actual" earnings represent the actual value of the pro forma measure of earnings without special items and non-cash charges and not the actual value of GAAP earnings. *See* Bradshaw and Sloan (2002), at pp. 44-45.

⁴⁰⁰ Bradshaw and Sloan (2002), at pp. 42-43.

⁴⁰¹ *See* Rio Tinto 2012 Annual Report, p. 162. In FY 2012, Rio Tinto reported Underlying Earnings of about \$9.3 billion while reporting a loss of \$2.99 billion under IFRS. *See* Rio Tinto 2012 Annual Report, p. 34.

⁴⁰² **Appendix C.9.**

⁴⁰³ **Appendix C.9.** At the time of the RTCM Impairment Disclosure, Thomson Reuters's 2012 consensus analyst EPS estimates were based on the forecasts provided by 16 analysts. On June 30, 2012, Rio Tinto plc had 1,410.6 million ordinary shares in issue and held by the public and Rio Tinto Limited had 435.8 million shares in issue and held by the public, excluding those held by Rio Tinto plc. On a per share basis, the Alcan and RTCM impairments amount to approximately \$6.00 and \$1.60, respectively (Alcan: $\$5.96 = \$11,000 \text{ million} / (1,410.6 \text{ million} + 435.8 \text{ million})$; RTCM: $\$1.62 = \$3,000 \text{ million} / (1,410.6 \text{ million} + 435.8 \text{ million})$). *See* Rio Tinto, 2012 Form 6-K, August 9, 2012, Exhibit 99.1, p. F-5 for number of shares outstanding.

X. THE ALBANESE STATEMENTS DID NOT HAVE A POSITIVE IMPACT ON RIO TINTO'S ADR PRICE

157. In describing the allegations in the Complaint, Dr. Metz cites to a section of the Complaint that alleges that: “Defendants publicly misrepresented and inflated RTCM’s value.”⁴⁰⁴ However, his report failed to analyze whether the August 2012 and November 2012 Albanese Statements had any impact on Rio Tinto’s ADR price.⁴⁰⁵ I now analyze whether the August 2012 and November 2012 Albanese Statements had any positive price impact on Rio Tinto’s ADR price in August and November 2012. For this analysis, I employ the same event-study methodology that I used to analyze the effects on Rio Tinto’s ADR price of Rio Tinto’s acquisition of control of Riversdale on April 8, 2011 and the RTCM Impairment Disclosure on January 17, 2013. Based on this analysis, I do not find conclusive evidence of a statistically significant price increase coinciding with the August 2012 Albanese Statements, and conclude that any positive price movement resulted from other positive confounding information, not the Albanese Statements.⁴⁰⁶ While I find a statistically significant price increase coinciding with the November 2012 Albanese Statement, I conclude that the statement did not have a positive impact on the ADR price, which is strongly supported by analysts’ positive reactions to confounding information about Rio Tinto and the fact that I did not identify any analysts’ reports that mentioned the November 2012 Albanese Statement.

A. August 8, 2012 Albanese Statements

158. Rio Tinto announced its HY 2012 earnings on August 8, 2012. On the same day, at the North American and London presentations of Rio Tinto’s half-year results, Mr. Albanese and other company executives responded to questions from analysts on a variety of topics. The Complaint alleges that, in response to questions about RTCM, Mr. Albanese mentioned that the regional area in the Moatize Basin was “more prospective” than he would have said a year earlier, that RTCM “probably ha[d] more potential in total as [it went] forward,” and that the Moatize Basin was: “truly a world-class basin deposit.”⁴⁰⁷ As I discussed above, I understand that the Plaintiff contends that

⁴⁰⁴ Complaint, ¶¶ 5, 7.

⁴⁰⁵ Complaint, ¶¶ 5, 7, 141-144, 162-163; Motion to Dismiss Order, pp. 24-25. The Metz Report provides no explanation for this omission.

⁴⁰⁶ On August 8, 2012, using the Equal Weighted Peer Index, the abnormal return is not statistically significantly different from zero (see **Exhibit 12**); however, this does not affect my conclusion that the August 2012 Albanese Statements did not cause a statistically significant increase in the price of Rio Tinto’s ADR.

⁴⁰⁷ The August 2012 Albanese Statements were made in two separate conference calls with investors on August 8, 2012.

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In Rio Tinto's conference calls with investors in London, Mr. Albanese was asked the following question and gave the following response:

Q. "[C]ould you please just remind us of your guidance for how much coal you expect to export out of Mozambique over the next few years? And what is your likely unit cash cost of production on an FOB basis?"

A. "I think in Mozambique we have flagged that we would expect about 400,000 tonnes of production of coking coal. It's been a good quality coking coal that we've been delivering so far this year. And I think as we've been saying we will want to be ramping that up. But to be realistic our own imposed constraints on capital spending will mean that that will probably be a slower rate of ramp up than we probably would have envisaged 12 months ago.

But the potential for that ramp up exists. If anything I'd say the work we've been doing over the past 12 months indicates we probably have more potential in total as we go forward. And again this is truly a world-class basin deposit. So I am comfortable with the position of getting Benga going.

I use that to develop our team, use that to develop our local capabilities, continue the engage with the government, continue the engage with others and find the right pathway and the optimal supply chain solutions which frankly will be there for the long term.

In terms of cost I think realistically as you are working at lower levels of production you are not going to get the full benefits of higher costs. But I would say that the Mozambique asset does benefit from a much lower stripping ratio than we see from traditional coking coal provinces around the world, so that will be a mitigating factor."

See Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, p. 23.

In Rio Tinto's HY 2012 North American teleconference on August 8, 2012, Mr. Albanese was asked the following question and gave the following response:

Q. "[A]t Benga, which is obviously there are a lot of challenges there, both being located in Mozambique as well as your own sort of capital allocation decisions. But can you also remind us at Benga, how involved Vale is in building out the infrastructure there?"

A. "I think in Benga -- first of all, our resources are physically distinct from Vale's resource, so there are two different resources being developed. We are both running our respective operations over the same existing rail line, which has been rehabilitated...

We are looking at a Greenfield rail development. They themselves have their own independent rail development, which is underway as we speak. It's still in process. I think they're rehabbing certain parts of an old line themselves are [sic] part of that.

I think that for me, if anything, Benga, Zambeze and the regional area that we've got in the Moatize, if anything, is more prospective than I would have said a year ago as we look at the full range of opportunities, not just in coking coal, in other opportunities in the basin. And so for me, it is truly a unique opportunity to have, without a doubt, a first tier world-class basin of high quality, low vol, hard coking coal, which is, I believe, going to be harder and harder to come by in the years to come. So I think this is a truly valuable asset with a lot of optionality.

Frankly, we've got to cut our cloth according to our means and we will not be looking to spend the type of capital that, frankly, we would have thought a year ago because of the overall efforts to balance capital with our efforts to expand the Pilbara with shareholder returns and a strong balance sheet. And we will be pragmatic as we would do that, but no way would we be losing or diminish the option that we would expect to be progressively harvesting.

And as we have the mine at Benga going and progressively ramping up over the next several years, I think it's important to recognize that allows us to develop and improve our own capabilities on the ground, which is so important, before we can really be putting big capital and optimize, that we have the right people on

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these statements represent material misrepresentations on the part of Mr. Albanese regarding RTCM.⁴⁰⁸

159. Although Rio Tinto's ADR price increased on August 8, 2012, the first trading day following the HY 2012 Earnings Release and August 2012 Albanese Statements,⁴⁰⁹ there is no conclusive evidence as to whether the positive abnormal return on August 8, 2012 was statistically significantly different from zero at the five-percent level. As I show in **Exhibit 12**, after controlling for market and industry-wide price movements using the Equal Weighted Peer Index, Rio Tinto's ADR price did not experience a positive abnormal return on August 8, 2012 that was statistically significantly different from zero at the five-percent level.⁴¹⁰ By contrast, using Dr. Metz's model, the Modified Metz Model, and the HSBC Global Mining Index, Rio Tinto's ADR price did experience a positive abnormal return on August 8, 2012 that was statistically significantly different from zero at the five-percent level. In any event, based on my analysis, any price increase cannot reasonably be attributed to Mr. Albanese's statements regarding RTCM. As I discuss below, Rio Tinto released a wide variety of information to investors that day, that is, confounding information that contributed to the observed price increases that day and any statistically significant abnormal return.
160. The August 2012 Albanese Statements were made in the context of Rio Tinto's HY 2012 Earnings Release announced before the start of trading in U.S. markets. The company described its performance in the first half of 2012 as: "solid financial results driven by record operational performance of iron ore division" and noted that their record iron ore earnings were achieved

the ground, the capabilities, the team that's had some time to actually work together and seem to be delivering with a track record of progress and success."

See Rio Tinto 2012 Half Year Results North America Teleconference and Q&A Transcript, August 8, 2012, pp. 8-9. Evidence was presented in discovery that the responses above were based on presentation and Q&A scripts provided to Mr. Albanese in advance of these teleconferences. *See* Deposition of David Ovington, pp. 99-106 (process for preparing scripted Q&A) and pp. 106-118 (comparing investor teleconference transcript statements to scripts).

⁴⁰⁸ Complaint, ¶¶ 141-142.

⁴⁰⁹ Some of the August 2012 Albanese Statements were made during the HY 2012 earnings presentation in London, which occurred at 9:30am BST (4:30 am EDT), while the other statements occurred during the HY 2012 North American teleconference which occurred at 4pm BST (11am EDT). *See* Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, pp. 1, 26; email from Ben Pearson, August 9, 2012, Defendants' Exhibit 165, RT_SEC_00121847-848.

⁴¹⁰ As with the regression analysis looking at other periods, the model with the Equal Weighted Peer Index has a higher R^2 than Dr. Metz's model, which uses SPMM Index, indicating that it better controls for industry-wide effects than the SPMM Index. *See* **Exhibit 12**.

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despite lower prices.⁴¹¹ Rio Tinto reported Underlying Earnings of \$5,154 million for the period, which was 4 percent above the consensus earnings estimate of \$4,940 million.⁴¹²

161. Rio Tinto also announced a dividend increase of 34 percent, in line with guidance.⁴¹³ In the media release Mr. Albanese was quoted as saying that: “Although sentiment remains negative in Europe and the US recovery is still fragile, our order books are full... We expect to see signs of improvements in Chinese economic activity by the end of the year... Around 500 of these investment projects are slated to start later this year and in 2013.”⁴¹⁴
162. Regarding RTCM, Rio Tinto’s earnings release provided production and shipment details. Specifically, it disclosed that the first cargo of premium hard coking coal had shipped from the Benga mine in Mozambique and the quantity of thermal and coking coal produced in the first half of 2012.⁴¹⁵
163. On August 8, 2012, Rio Tinto also held an earnings presentation and held question and answer sessions with analysts in London and North America. In the earnings presentation, Rio Tinto emphasized its strategy of investing in Tier 1 assets while maintaining a strong balance sheet and a single-A credit rating and growing capital expenditures.⁴¹⁶ In the London and North American

⁴¹¹ Rio Tinto Media Release, *Rio Tinto announces first half Underlying Earnings of \$5.2 billion*, August 8, 2012, p. 1; Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, p. 3.

⁴¹² Rio Tinto Media Release, *Rio Tinto announces first half Underlying Earnings of \$5.2 billion*, August 8, 2012, p. 3; “FED: Rio Tinto profit down, but is bullish,” *Australian Associated Press Financial News Wire*, August 8, 2012.

⁴¹³ Rio Tinto Media Release, *Rio Tinto announces first half Underlying Earnings of \$5.2 billion*, August 8, 2012, p. 1.

⁴¹⁴ Rio Tinto Media Release, *Rio Tinto announces first half Underlying Earnings of \$5.2 billion*, August 8, 2012, p. 2.

⁴¹⁵ Rio Tinto Media Release, *Rio Tinto announces first half underlying earnings of \$5.2 billion*, August 8, 2012, pp. 1, 18.

⁴¹⁶ Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, pp. 2-3. When discussing RTCM, Mr. Albanese’s prepared remarks noted that:

“In Mozambique, we achieved a key milestone with the first delivery of coking coal to the Indian customer. We do expect Benga mine to produce and rail more than 400,000 tonnes of coking coal this year.

Meanwhile, we’re continuing exploration activity with promising results. Early indications are the exploration potential is far higher than anticipated just a year ago and beyond that of coking coal. Significant additional tonnes may be delivered. However, it is likely it will take longer to develop its infrastructure than previously planned due to the timing approvals and internal constraints on our capital. Discussions continue with the Mozambique government on a range of future infrastructure solutions.”

See Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, p. 5.

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question and answer sessions, Rio Tinto executives took questions from analysts on a wide variety of topics, including impairment of the aluminium assets, Chinese steel production, iron ore expansion plans, plans for EBITDA improvements, etc. RTCM was not a major focus of the presentation or the question and answer sessions.⁴¹⁷ In fact, only three of the 37 questions asked during these question and answer sessions referenced Benga or coal production at RTCM.⁴¹⁸ The other 34 questions addressed multiple other Rio Tinto projects, including Oyu Tolgoi, Ivanhoe, Pilbara, and Simandou, and other topics including Rio Tinto's iron ore business and capital expenditures.⁴¹⁹

164. As I discuss below, following the disclosures on August 8, 2012, equity analysts viewed the HY 2012 Earnings Release positively and gave little mention to RTCM in general or the August 2012 Albanese Statements in particular. This observation leads me to conclude that the August Albanese Statements did not have a positive impact on Rio Tinto's ADR price and rather any price increase is attributable to confounding information released that day. Because the other information released on August 8, 2012 was positive, if the model using the Equal Weighted Peer Index is the correct model, which in my opinion it is, then the lack of a statistically significantly different from zero price increase on August 8, 2012 only strengthens my opinion that the August 2012 Albanese Statements did not inflate the value of Rio Tinto's ADR.

1. The Positive Responses of Equity Analysts to the HY 2012 Earnings Release on August 8, 2012 Were Unrelated to the August 2012 Albanese Statements

165. My review of analysts' reports shows that following the August 8, 2012 earnings release and earnings call, analysts mainly focused on where earnings fell relative to expectations and the drivers of earnings and had a positive reaction to the information released. To assess analysts' reactions to the HY 2012 Earnings Release and August 2012 Albanese Statements, I reviewed 36 analysts' reports published between August 8, 2012 and August 22, 2012 that were either produced in discovery, provided by Rio Tinto, or identified by searching the analysts' reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms through which I identified

⁴¹⁷ Rio Tinto 2012 Half Year Results North America Teleconference and Q&A Transcript, August 8, 2012; Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, August 8, 2012.

⁴¹⁸ Rio Tinto 2012 Half Year Results North America Teleconference and Q&A Transcript, August 8, 2012, pp. 8-9; Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, August 8, 2012, pp. 17-18, 22-23.

⁴¹⁹ Rio Tinto 2012 Half Year Results North America Teleconference and Q&A Transcript, August 8, 2012; Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters, August 8, 2012.

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25 reports from 22 unique contributors that discuss the HY 2012 Earnings Release.⁴²⁰ As I show in **Exhibit 13**, which provides a summary of the analysts' reactions to the HY 2012 Earnings Release, out of the 22 contributors that provide a reaction, 15 compared Rio Tinto's Underlying Earnings to the analysts' forecasts, and 12 stated that Rio Tinto's Underlying Earnings exceeded their forecasts.⁴²¹ In addition, as I show in **Appendix C.11**, analysts demonstrated that they viewed the information in the earnings announcement positively with titles to their reports that included: "Solid 1H, blue chip status confirmed," "1H12 - Growing where it counts," "1H12 financial Results: solid performance," and "Interim ahead of expectations, it's all about iron ore."

2. *In Their Commentary on the HY 2012 Earnings Release, the Majority of Equity Analysts Did Not Mention the August 2012 Albanese Statements*

166. **Exhibit 14** provides a summary of the analysts' reactions to the RTCM-related disclosures provided at the HY 2012 Earnings Release and is based on the same set of reports as **Exhibit 13** and **Appendix C.11**. As I show in **Exhibit 14**, of the 22 contributors I identified that discuss the HY 2012 Earnings Release, only three mention the August 2012 Albanese Statements, with all three also noting the occurrence of the first production at Benga and two of the three mentioning that development is slower than initially planned and discussing infrastructure options. Further, of the remaining 19 analysts that did not mention the August 2012 Albanese Statements, only seven mention RTCM in any fashion, focusing instead on the initial production from Benga (four of seven contributors that mention RTCM) and that the development of Benga was expected to be slower than initially planned (three of seven contributors that mention RTCM).⁴²²
167. In addition, although following the earnings release an *AFR* news article on Rio Tinto's projects in Africa mentioned that Mr. Albanese remained: "optimistic about the prospects for Mozambique,"⁴²³ the coverage focused on the slower than expected development of RTCM with statements such as:

⁴²⁰ The reports included in **Appendix C.11** were published between August 8, 2012 and August 22, 2012 and were either produced in discovery, provided by Rio Tinto, or found in a search of reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms. I filtered the reports to include one report per contributor per day. **Appendix C.11** provides additional detail on my search criteria and filtering process.

⁴²¹ **Appendix C.11** provides supporting quotations from the analysts' reports cited in **Exhibit 13**.

⁴²² **Appendix C.11** provides additional detail regarding analysts' commentary on RTCM following the HY 2012 Earnings Release.

⁴²³ "Albanese resets compass on African adventure," *AFR*, August 16, 2012.

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Just 18 months ago, Rio Tinto appeared to be making a big push into Africa, with its \$4 billion takeover of Mozambique coal developer Riversdale Mining and a \$US700 million settlement agreement with the government of Guinea affirming its rights to the Simandou iron ore project.

But since then a combination of declining commodities prices, slow government approvals and insufficient infrastructure has placed those projects on the relative back burner compared to expansions of its hugely profitable West Australian iron ore business...

There was no mention of the goal set last October of exporting 25 million tonnes of coking coal from Mozambique by 2020. Instead, he confirmed Rio would produce around 400,000 tonnes from its Benga mine this year...

In April, Rio said it expected to build three new coal handling plants at Benga by 2015 to allow for annual exports of 6 million tonnes of coking coal and 4 million tonnes of thermal coal. Furthermore, it planned to start exports from a second mine, Zambeze, by 2015. But Mr. Albanese has not reaffirmed those targets in recent briefings.⁴²⁴

168. To summarize, I find that there is no conclusive evidence of a statistically significant ADR price increase on August 8, 2012. Even if there was a statistically significant ADR price increase that day, based on Rio Tinto's reported Underlying Earnings beating the analysts' forecast and on my analysis of analysts' reactions to the information released on August 8, 2012, I conclude that any such ADR price increase was due to factors other than the August 2012 Albanese Statements.

B. November 29, 2012 Albanese Statement

169. On November 29, 2012, Rio Tinto held an investor seminar in Sydney that included: "an in-depth look at its Iron Ore and Diamonds & Minerals product groups."⁴²⁵ The Plaintiff alleges that during the scripted portion of the November 2012 Investor Seminar, Mr. Albanese made a misleading statement that Rio Tinto "continue[d] to view [Mozambique's] Moatize Basin as a long-term opportunity with the potential to grow beyond 25 [million tonnes per annum]."⁴²⁶

⁴²⁴ "Albanese resets compass on African adventure," *AFR*, August 16, 2012.

⁴²⁵ Rio Tinto Media Release, *Rio Tinto Investor Seminar*, November 29, 2012, p. 1.

⁴²⁶ Complaint, ¶ 163. In his presentation, Mr. Albanese said the following about RTCM:

"Earlier this year we made our first shipment from Mozambique and have shipped more than 200,000 tonnes to date from our new Benga mine.

We continue to view the Moatize Basin as a long term opportunity with the potential to grow beyond 25mtpa.

170. On the first trading day following the November 2012 Albanese Statement, November 29, 2012, Rio Tinto's ADR price increased. As I show in **Exhibit 15**, after controlling for market and industry-wide price movements, Rio Tinto's ADR price experienced a positive abnormal return on November 29, 2012 that was statistically significantly different from zero at the five-percent level for all models. This suggests that the company-specific news released on November 29, 2012 had a positive impact on Rio Tinto's ADR price. However, this price increase is attributable to *all* of the new information released that day and not just Mr. Albanese's contested statement. As I discuss below, Rio Tinto management provided information on a wide variety of topics that day. That is, there was confounding information that contributed to the observed price increases that day. Based on my analysis discussed below, I conclude that Rio Tinto's ADR price increase was due to factors other than the November 2012 Albanese Statement.
171. Mr. Albanese's statements at the investor seminar, most of which were unrelated to RTCM, emphasized a new cost cutting strategy and a focus on capital efficiency. In particular, the company presentation included the following comments, among many others: (1) "we are delivering strong operational performance relative to our sector peers;" (2) "[w]e are now targeting cumulative cash cost savings of over 5 billion dollars over the next two years;" (3) "we are fully prepared to return surplus cash to shareholders under the right conditions... In the past we have said that our first priority for the use of our cash is investment in value accretive growth. We are now shifting to a more balanced approach;" (4) "we have several major growth projects coming on stream in the next twelve months;" (5) "we will be disciplined in our investment programme given market volatility, our aim to keep our single A rating, and the desire for cash returns to shareholders;" (6) "while the outlook remains positive, new supply growth is slowing;" and (7) "the long term outlook for our industry remains extremely attractive, despite the short term turmoil."⁴²⁷ In fact, RTCM was only

Work continues with industry and the government of Mozambique to progress studies for a long term infrastructure corridor, as all coal producers remain constrained by the lack of capacity. Major capital will not be committed until these studies are complete."

See Rio Tinto Investor Seminar November 2012 - Script, November 29, 2012, pp. 34-35. Evidence was presented in discovery that the statement was based on a presentation script provided to Mr. Albanese in advance of the teleconference. *See* Deposition of David Ovington, pp. 124-129 (process for preparing scripts) and pp. 135-137 (comparing investor teleconference transcript statement to script).

⁴²⁷ Rio Tinto Investor Seminar November 2012 - Script, November 29, 2012, pp. 2-4, 11.

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discussed in conjunction with one of the 67 slides that were presented by Mr. Albanese or other company executives at the investor seminar.⁴²⁸

172. Regarding RTCM, Mr. Albanese noted that: Rio Tinto had shipped more than 200,000 tonnes to date from its Benga mine; and “[w]ork continues with industry and the government of Mozambique to progress studies for a long term infrastructure corridor, as all coal producers remain constrained by the lack of capacity. Major capital will not be committed until these studies are complete.”⁴²⁹
173. As I discuss below, equity analysts viewed the new information provided at the November 2012 Investor Seminar positively, gave little attention to RTCM in general, and did not mention the November 2012 Albanese Statement. Based on the evidence that analysts placed limited focus on RTCM, did not reference the November 2012 Albanese Statement at the November 2012 Investor Seminar at all, and instead focused on the surprise announcement of the \$5 billion cost cutting initiative and an emphasis on returning cash to shareholders unless new projects could show a superior return (as I discuss below), I conclude that confounding information rather than the November 2012 Albanese Statement led to the observed statistically significantly different from zero price increases.

I. The Positive Responses of Equity Analysts to the November 29, 2012 Investor Seminar Were Unrelated to the November 2012 Albanese Statement

174. My review of analysts’ reports shows that following the November 29, 2012 investor seminar, analysts mainly focused on the surprise announcement of a \$5 billion cost cutting initiative and an increased emphasis on returning cash to shareholders unless new projects can show a superior return. To assess analysts’ reactions to the November 2012 Investor Seminar and November 2012 Albanese Statement, I reviewed 30 analysts’ reports published between November 29, 2012 and December 12, 2012 that were either produced in discovery, provided by Rio Tinto, or identified by searching the analysts’ reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms and identified 22 reports that discuss the November 2012 Investor Seminar.⁴³⁰

⁴²⁸ Rio Tinto Investor Seminar November 2012 - Script, November 29, 2012, pp. 34-35.

⁴²⁹ Rio Tinto Investor Seminar November 2012 - Script, November 29, 2012, pp. 34-35.

⁴³⁰ The reports included in **Appendix C.12** were published between November 29, 2012 and December 12, 2012 and were either provided by Rio Tinto or found in a search of reports related to Rio Tinto available to me on the Capital IQ and Thomson ONE platforms. I filtered the reports to include one report per contributor per day. **Appendix C.12** provides additional detail on my search criteria and filtering process.

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175. As I show in **Exhibit 16**, which provides a summary of the analysts' reactions to the November 2012 Investor Seminar, following the November 29, 2012 Investor Seminar, analysts focused on factors other than the November 2012 Albanese Statement, including the surprise announcement of a \$5 billion cost cutting initiative and an increased emphasis on returning cash to shareholders unless new projects can show a superior return.⁴³¹ In particular, all 18 unique contributors who published 22 reports that discuss the November 2012 Investor Seminar mention the announcement of the \$5 billion cost cutting initiative, 12 contributors mention the increased emphasis on returning cash to shareholders, and 15 contributors responded positively to the announcements (the remaining three contributors suggested a neutral reaction to the announcements). Other topics mentioned frequently by analysts include iron ore production and commodity price forecasts, China's economy, and the possibility of write-downs (*see Appendix C.12*).

2. *In their Commentary on the November 29, 2012 Investor Seminar, the Majority of Equity Analysts Did Not Mention RTCM and None Mentioned the November 2012 Albanese Statement*

176. **Exhibit 17** provides a summary of the analysts' reactions to the RTCM-related disclosures provided at the November 2012 Investor Seminar and is based on the same set of reports as **Exhibit 16** and **Appendix C.12**. As I show in **Exhibit 17**, in reaction to the commentary provided by Rio Tinto management at the November 2012 Investor Seminar, only eight of the 18 contributors that discuss the November 2012 Investor Seminar mention management commentary related to RTCM from the seminar and five out of eight of these reports mention it in the context of the potential for a write-down of RTCM.⁴³² None of the 18 contributors that provide commentary on this investor seminar mention the November 2012 Albanese Statement at issue.

177. Therefore, based on my analysis of analysts' reactions to the information released on November 29, 2012, I conclude that Rio Tinto's ADR price increase was due to factors other than the November 2012 Albanese Statement.

⁴³¹ **Appendix C.12** provides supporting quotations from the analysts' reports cited in **Exhibit 16**.

⁴³² **Appendix C.12** provides additional detail regarding analysts' commentary on RTCM following the November 2012 Investor Seminar.

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Glenn Hubbard
February 21, 2020

Appendix A

ROBERT GLENN HUBBARD

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Columbia University
607 Uris Hall
3022 Broadway
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Web: www.glennhubbard.net

Curriculum Vitae

PERSONAL DATA

Born: In Orlando, Florida.
Marital Status: Married, two children.

FIELDS OF SPECIALIZATION

Public Economics, Corporate Finance and Financial Institutions, Macroeconomics, Industrial Organization, Natural Resource Economics, Public Policy.

EDUCATION

Ph.D., Economics, Harvard University, May 1983.
Dissertation: *Three Essays on Government Debt and Asset Markets*, supervised by Benjamin M. Friedman, Jerry A. Hausman, and Martin S. Feldstein.

A.M., Economics, Harvard University, May 1981.

B.A., B.S., Economics, University of Central Florida, June 1979, *summa cum laude*.

HONORS AND AWARDS

NACD Directorship 100, 2019.
Distinguished Eagle Scout Award, National Boy Scouts of America, November 2017.
Visionary Award, Council for Economic Education, 2016.
Silver Beaver Award, Boy Scouts of America, 2014.
Medal of Honor, Foreign Policy Association, 2014.
Homer Jones Lecture, Federal Reserve Bank of St. Louis, 2013.
Fiftieth Anniversary Award of Scholarship, University of Central Florida, 2013.
Franklin Delano Roosevelt Distinguished Service Award, Greater New York Council, Boy Scouts of America, 2012.
Bloomberg Markets, 50 Most Influential Members of the Global Financial Community, 2012.
National Association of Corporate Directors, Directorship 100: People to Watch, 2011.
Joint American Economic Association/American Finance Association Distinguished Speaker, 2008.
Cairncross Lecture, University of Oxford, 2007.
Fellow of the National Association of Business Economists, 2005.
William F. Butler Memorial Award, New York Association of Business Economists Award, 2005.
Exceptional Service Award, The White House, 2002.
Michelle Akers Award for Distinguished Service, University of Central Florida, 2001.
Alumni Hall of Fame, University of Central Florida, 2000.
Best Paper Award for Corporate Finance, Western Finance Association, 1998.
Exceptional Service Award, U.S. Department of the Treasury, 1992.
Distinguished Alumnus Award, University of Central Florida, 1991.
John M. Olin Fellowship, National Bureau of Economic Research, 1987-1988.

Teaching Commendations, Graduate School of Business, Columbia University.

Northwestern University Associated Student Government Teaching Awards, announced in 1985, 1986, and 1987.

Graduate Distinctions: National Science Foundation Fellowship, Alfred P. Sloan Foundation Fellowship.

Undergraduate Distinctions: National Merit Scholarship, National Society of Professional Engineers Award, Florida Society of Professional Engineers Award, National Council of Teachers of English Award, Omicron Delta Kappa, Financial Management Association Honor Society.

POSITIONS HELD

2019-present	Dean Emeritus, Graduate School of Business, Columbia University
2004-2019	Dean, Graduate School of Business, Columbia University
2019-present	Academic Director, Chazen Institute of International Business, Graduate School of Business, Columbia University
1994-present	Russell L. Carson Professor of Economics and Finance, Graduate School of Business, Columbia University
1997-present	Professor of Economics, Faculty of Arts and Sciences, Columbia University
2019-present	Co-Chair, Task Force on Financial Stability, Brookings Institution
2017-present	Co-Chair, Aspen Institute Future of Work Initiative National Advisory Council
2017-present	Member, Aspen Institute Economic Strategy Group
2007-2017	Panel of Economic Advisors, Federal Reserve Bank of New York (also 1993-2001)
2003-2012	Featured commentator, <i>Nightly Business Report</i>
2003-2010	Featured commentator, <i>Marketplace</i>
2003-present	Visiting Scholar American Enterprise Institute (also 1995-2001)
1999-2004	Co-Director, Columbia Business School Entrepreneurship Program
2004-2005	Viewpoint Columnist, <i>Business Week</i>
2004-2006	Member, Panel of Economic Advisors, Congressional Budget Office
2001-2003	Chairman, President's Council of Economic Advisers
2001-2003	Chairman, Economic Policy Committee, Organization for Economic Cooperation and Development
2001-2003	Member, White House National Economic Council and National Security Council
2001-2003	Member, President's Council on Science and Technology
1997-1998	Visiting Professor of Business Administration, Harvard Business School
1995-2001	Visiting Scholar and Director of Tax Policy Program, American Enterprise Institute
1994-1997	Senior Vice Dean, Graduate School of Business, Columbia University
1994	MCI Fellow, American Council for Capital Formation
1994	John M. Olin Visiting Professor, Center for the Study of Economy and the State, University of Chicago
1991-1993	Deputy Assistant Secretary (Tax Analysis), U.S. Department of the Treasury

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1988-present	Professor of Economics and Finance, Graduate School of Business, Columbia University
1987-1988	John M. Olin Fellow in residence at the National Bureau of Economic Research
1983-1988	Assistant Professor of Economics, Northwestern University, with half-time research appointment in the Center for Urban Affairs and Policy Research
1985	Visiting Scholar, Center for Business and Government, John F. Kennedy School of Government, Harvard University
1981-1983	Teaching Fellow (Department of Economics) and Resident Tutor in Economics (Dunster House), Harvard University

DIRECTORSHIPS

2019-present	MetLife (Chairman of the Board)
2007-2019	MetLife (Independent director)
2006-2008	Capmark Financial Corporation; Information Services Group
2004-present	ADP, Inc.; BlackRock Fixed Income Board
2004-2014	KKR Financial Corporation (Lead independent director)
2004-2008	Duke Realty Corporation
2004-2006	Dex Media/R.H. Donnelley
2003-2005	ITU Ventures
2000-2001	Angel Society, LLC; Information Technology University, LLC

CONSULTING OR ADVISORY RELATIONSHIPS

2019-present	Growth Catalyst Partners
2016-present	55 Capital
2014-present	Fiscal Note
2007-present	Consulting or Speaking Engagements at Some Point: U.S. Department of Justice, Internal Revenue Service, Abbott, Access Midstream, Airgas, Alibaba, AlixPartners, Alternative Investment Group, Amazon, American Century, America's Health Insurance Plans, AMVAC, ApexBrasil, Association for Corporate Growth, Atlantic Point, AXA, Banco Bradesco, Bank of America, Bank of New York Mellon, Barclays Services Corporation, BBVA Compass, BGC, BNP Paribas, Brevan Howard, Calamos, Capital Research, Carlyle Group, Christofferson Robb, Citigroup, Commonfund, Compagnie Financiere Tradition, ComScore, Coty, Credit Suisse, Dell, Deutsche Bank, Donald Fewer, FactSet, Fidelity, Franklin Resources, Freddie Mac, Gartner, Goldman Sachs, Good, Government of Greece, Great-West, Sue Ann Hamm, Hanson, The Hartford, Huntsman Corp., Insurance Information Institute, Intel, Investcorp, Jarden, JP Morgan Chase, Key Bank, Kosmos, Lincoln National, Lotte, Macquarie, Mastercard, Medtronic, Microsoft, Morgan Stanley, Mylan, NAI, NAREIT, National Rural Utilities Cooperative Finance Corporation, New York Bankers Association, NMS Group, Nationwide, Ocwen, Oracle, Panera, Patriarch, Pension Real Estate Association, Pershing Square, PNC, Principal Management Corporation, Prium, Promontory, Rabobank, Real Estate Roundtable, Related Properties, Reynolds American, Rio Tinto, Royal Bank of Canada, Royal Bank of Scotland, Rural/Metro, SCE&G, Sears, SIG, Sinclair, Solera, SunTrust, Telia Sonera, Tesco, Trust Company of the West, Tullett Prebon, Visa, Walter Energy, Wells Fargo, William Walters, Wilmington Trust
2005-2009	Arcapita
2005-2010	Nomura Holdings America
2008	Laurus Funds
2005-2008	Chart Venture Partners
2003-2009	Ripplewood Holdings

POSTS IN NON-PROFIT ORGANIZATIONS

2019-present	Member, Grant Advisory Committee, Smith Richardson Foundation
2019-present	Co-Chair, Financial Stability Task Force
2006-present	Co-Chair, Committee on Capital Markets Regulation
2004-present	Member, Advisory Board, National Center on Addiction and Substance Abuse
2003-present	Member, Manhattan District Council Board, Boy Scouts of America
2017-present	Trustee, Fifth Avenue Presbyterian Church, New York
2012-present	Trustee, Committee for Economic Development
2012-2015	Trustee, Fifth Avenue Presbyterian Church, New York
2010-2011	Co-Chair, The Study Group on Corporate Boards
2008-2011	Elder, Fifth Avenue Presbyterian Church
2008-2010	Chairman, Economic Club of New York
2006-2008	Member, Board of Directors, Resources for the Future
2003-2008	Trustee, Tax Foundation
2004-2010	Trustee, Economic Club of New York
2004-2007	Trustee, Fifth Avenue Presbyterian Church, New York

PROFESSIONAL ACTIVITIES

1987-present	Research Associate, National Bureau of Economic Research (Monetary Economics, Corporate Finance, Public Economics, Economic Fluctuations, Industrial Organization)
2007-present	Life Member, Council on Foreign Relations
2017-2018	Member, U.S.-China Economic and Security Review Commission
2003	Member, Committee of Visitors, National Science Foundation
2000	Panelist, Graduate Fellowship Selection Committee, National Science Foundation
1999-2001	Director, Project on Nonprofit Organizations, National Bureau of Economic Research
1997-2001	Member, COSSA-Liaison Committee, American Economic Association
1993-2001	Board of Advisors, Institutional Investor Project, School of Law, Columbia University
1995-1999	Member, Board of Academic Consultants, American Law Institute
1997	Member, Grants Panel for Integrative Graduate Education and Research Training Program, National Science Foundation
1994-1996	Member, Economics Grants Panel, National Science Foundation
1993-1996	Member, Federal Taxation and Finance Committee, National Tax Association
1990-1995	Co-organized research program on International Aspects of Taxation at the National Bureau of Economic Research, Cambridge, Massachusetts
1995	Member, Program Committee, American Economic Association Meeting
1983-1987	Faculty Research Fellow, National Bureau of Economic Research
1983-1986	Adjunct Faculty Research Fellow, Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, Cambridge, Massachusetts
1986, 1988, 1994	Member of the Brookings Panel on Economic Activity

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1985, 1987	Special guest of the Brookings Panel on Economic Activity
1990-1991	Organized research program on Environmental Economics and Public Policy at the National Bureau of Economic Research, Cambridge, Massachusetts
1988-1990	Co-organized research program on Dynamic Models of Firms and Industries at the National Bureau of Economic Research, Cambridge, Massachusetts
1985-1989	Organized research program and workshops on contracting in financial markets at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts
1988	Organized Economic Fluctuations program on Industrial Economics and Macroeconomics, National Bureau of Economic Research, Stanford, California
1986-1988	Organized research program and workshop on links between macroeconomics and industrial organization at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts
1991	Member, Program Committee, Econometric Society Winter Meetings
1982-1983	Member, Energy Modeling Forum VII Study Group, Stanford University, Stanford, California
1981-present	Consultant on research projects with private corporations and government and international agencies, including the Internal Revenue Service, Social Security Administration, U.S. Department of Energy, U.S. Department of State, U.S. Department of Treasury, and U.S. International Trade Commission; National Science Foundation; The World Bank; Board of Governors of the Federal Reserve System; Federal Reserve Bank of New York; Congressional Budget Office
Member:	American Economic Association, American Finance Association, Association for Public Policy and Management, Econometric Society, International Association of Energy Economists, National Tax Association, the Royal Economic Society, and the Institute for Management Science
Referee:	<i>American Economic Review; Canadian Journal of Economics; Columbia Journal of World Business; Econometrica; Economic Journal; Energy Economics; Energy Journal; International Finance; International Tax and Public Finance; Journal of Business; Journal of Business and Economic Statistics; Journal of Economic History; Journal of Economic Literature; Journal of Finance; Journal of Financial Economics; Journal of Financial Intermediation; Journal of Financial and Quantitative Analysis; Journal of Financial Services Research; Journal of Industrial Economics; Journal of International Money and Finance; Journal of Law and Economics; Journal of Macroeconomics; Journal of Money, Credit, and Banking; Journal of Monetary Economics; Journal of Political Economy; Journal of Public Economics; Journal of Regulatory Economics; Journal of Small Business Finance; Management Science; National Tax Journal; Quarterly Journal of Economics; Quarterly Review of Economics and Finance; RAND Journal of Economics; Review of Economic Dynamics; Review of Economic Studies; Review of Economics and Statistics; Review of Financial Economics; Scandinavian Journal of Economics; Southern Economic Journal; National Science Foundation; C.V. Starr Center for Applied Economics (New York University); Addison-Wesley Publishing Company; Ballinger Press; Cambridge University Press; Harvard Business School Press; MIT Press; W.W. Norton; Oxford University Press</i>
Associate Editor:	<i>Journal of Applied Corporate Finance</i>
Former Associate Editor:	<i>Federal Reserve Bank of New York Economic Policy Review; International Finance; International Tax and Public Finance; Journal of Industrial Economics; Journal of Macroeconomics; Journal of Small Business Finance; National Tax Journal</i>

PUBLICATIONS AND PAPERS

Edited Volumes

Transition Costs of Fundamental Tax Reform (with K.A. Hassett), Washington, DC: AEI Press, 2001.

Inequality and Tax Policy (with K.A. Hassett), Washington, DC: AEI Press, 2001.

Effects of Taxation on Multinational Corporations (with M. Feldstein and J.R. Hines), Chicago: University of Chicago Press, 1995.

Taxing Multinational Corporations (with M. Feldstein and J. R. Hines), Chicago: University of Chicago Press, 1995.

Studies in International Taxation (with A. Giovannini and J. B. Slemrod), Chicago: University of Chicago Press, 1993.
Financial Markets and Financial Crises, Chicago: University of Chicago Press, 1991.
Asymmetric Information, Corporate Finance, and Investment, Chicago: University of Chicago Press, 1990.

Books

Balance (with T. Kane), Simon and Schuster, 2013.

Healthy, Wealthy, and Wise (with J.F. Cogan and D.P. Kessler), Hoover Institution Press and AEI Press, 1st ed., 2005; 2nd ed., 2011.

Seeds of Destruction (with P. Navarro), FT Publishing, 2010.

The Mutual Fund Industry: Competition and Investor Welfare (with M.F. Koehn, S.I. Ornstein, M. Van Audenrode, and J. Royer), New York: Columbia Business School Publishing, 2010.

The Aid Trap: Hard Truths About Ending Poverty (with W. Duggan), Columbia Business School Publishing, 2009.

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Principles of Economics (with A.P. O'Brien), Pearson Prentice Hall, 1st ed., 2006; 2nd ed., 2008; 3rd ed., 2010; 4th ed., 2013; 5th ed., 2015; 6th ed., 2017; 7th ed., 2019; 8th ed., 2021.

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PAPERS PRESENTED

University Seminars

Bard College, University of Bergamo, Butler Community College, University of California (Berkeley), University of California (Los Angeles), University of California (San Diego), Carleton, University of Chicago, Columbia, University of Dubuque, Emory, University of Florida, University of Central Florida, Florida Atlantic University, George Washington, Georgetown, Georgia Southern University, Harvard, Hendrix College, University of Illinois, Indiana University, Johns Hopkins, Laval, Lehigh, University College (London), University of Kentucky, London School of Economics, MIT, University of Maryland, University of Miami, Miami University, University of Michigan, University of Minnesota, New York University, Northwestern, Oxford, University of Pennsylvania, Princeton, Rice, University of Rochester, Stanford, Syracuse, University of Miami, University of Texas, Texas Tech University, Tufts, University of Virginia, University of Wisconsin (Madison), University of Wisconsin (Milwaukee), Virginia Tech, and Yale.

Conference Papers Presented

American Council for Capital Formation, Washington, DC, June 1994.

American Economic Association, Philadelphia, 2018; Chicago, 2017; San Francisco, 2016; Boston, 2015; Philadelphia, 2014; San Diego, 2013; Chicago, 2012; New Orleans, 2008; Chicago, 2007; Boston, 2006; Philadelphia, 2005; San Diego, January 2004; Atlanta, January 2002; New Orleans, January 2001; Boston, January 2000; New York, January 1999; New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; Boston, January 1994; Anaheim, January 1993; Washington, D.C., December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1985; Dallas, December 1984.

American Enterprise Institute, Conference on Corporate Taxation, 2016; Conference on Private Equity, 2007; Conference on Corporate Taxation, 2006; Conference on Multinational Corporations, 2004, 2003; Conference on Multinational Corporations, February 1999; Conference on Income Inequality, January 1999; Conference on Transition Costs of Fundamental Tax Reform, November 1998; Conference Series on Social Insurance Reform, 1997-1998; Conference Series on Fundamental Tax Reform, 1995-1998; Conference on Distributional Analysis of Tax Policies, Washington, D.C., December 1993.

American Finance Association, New Orleans, January 2008; San Diego, January 2004; Boston, January 2000; New York, January 1999; New Orleans, January 1997.

Association of Environmental and Resource Economists, Dallas, December 1984; San Francisco, December 1983.

Association of Public Policy Analysis and Management, New Orleans, October 1984; Philadelphia, October 1983.

Bipartisan Commission on Entitlement and Tax Reform, Washington, DC, June 1994.

Brookings Panel on Economic Activity, September 2015, September 1994, April 1988, September 1987, September 1986, April 1986, September 1985.

Centre for Economic Policy Research Conference on Capital Taxation and European Integration, London, September 1989.

Conference on International Perspectives on the Macroeconomic and Microeconomic Implications of Financing Constraints, Centre for Economic Policy Research, Bergamo, Italy, October 1994.

Congressional Research Service Conference for New Members of Congress, Williamsburg, January 1999.

Congressional Research Service Conference for Members of the Ways and Means Committee, Baltimore, October 2001.

Deutsche Bundesbank Conference on Investing for the Future, Frankfurt, Germany, May 2000.

Eastern Economic Association, Boston, March 1988; Boston, February 1983.

Econometric Society, New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; New Orleans, January 1992; Washington, December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1986; New York, December 1985; Boston, August 1985; Madrid, September 1984; San Francisco, December 1983; Pisa, August 1983.

Energy Modeling Forum, Stanford University, August 1983; February 1983; August 1982.

European Commission, Conference on Taxation of Financial Instruments, Milan, June 1998.

European Institute for Japanese Studies, Tokyo, September 2002; March 2002.

Federal Reserve Bank of Boston, Annual Economic Conference, North Falmouth, Massachusetts, June 1995.

Federal Reserve Bank of Kansas City Symposium on "Financial Market Volatility – Causes, Consequences, and Policy Responses," Jackson Hole, Wyoming, August 1988; Comment of Rogoff, August 2004.

Federal Reserve Bank of New York, Conference on Consolidation of the Financial Services Industry, New York, March 1998.

Federal Reserve Bank of Philadelphia Conference on Economic Policy, Philadelphia, November 2007; November 2001.

Federal Reserve Bank of St. Louis, Conference on Economic Policy, St. Louis, October 1994.

Harvard Law School U. S.-Japan Symposium, Tokyo, December 2003; Washington, D. C., September 2002; Tokyo, December 2001.

Hoover Institution, Conference on Fundamental Tax Reform, December 1995.

The Institute of Gas Technology, Washington, DC, May 1982.

The Institute of Management Science/Operations Research Society of America, Orlando, November 1983; Chicago, April 1983.

International Association of Energy Economists, Boston, November 1986; Philadelphia, December 1985; Bonn, June 1985; San Francisco, November 1984; Washington, DC, June 1983; Denver, November 1982; Cambridge (England), June 1982; Houston, November 1981.

International Conference on the Life Cycle Model, Paris, June 1986.

International Institute of Public Finance, Innsbruck, August 1984.

International Seminar on Public Economics, Amsterdam, April 1997.

National Academy of Sciences, February 1997.

National Association of Business Economists, Washington, March 2015; Orlando, September 2003; Washington, September 2002; New York, September 2001; Boston, September 1996; Dallas, September 1992; New Orleans, October 1987.

National Bureau of Economic Research - IMEMO Conference on the American Economy, Moscow, August 1989.

National Bureau of Economic Research Summer Institute, August 2014; August 2012; August 2009; August 2006; August 2005; July-August 2003; July-August 2000; July-August 1999; July-August 1998; August 1997; July 1995; July 1994; July 1993; August 1992; July-August 1991; July-August 1990; July-August 1989; July-August 1988; July-August 1987; July-August 1986; July 1985; July 1984; July 1983.

National Bureau of Economic Research Conference on Asymmetric Information, Corporate Finance, and Investment, Cambridge, May 1989.

National Bureau of Economic Research Conference on Chinese Economic Reform, Shanghai, China, July 2000.

National Bureau of Economic Research Conference on Financial Crises, Key Biscayne, March 1990.

National Bureau of Economic Research Conference on Government Expenditure Programs, Cambridge, November 1986.

National Bureau of Economic Research Conference on Indian Economic Reform, Rajasthan, India, December 1999.

National Bureau of Economic Research Conference on Innovation Policy, Washington, DC, April 2004, April 2003.

National Bureau of Economic Research Conference on International Taxation, Washington, DC, April 1994; Cambridge, January 1994; New York, September 1991; Nassau, Bahamas, February 1989.

National Bureau of Economic Research, Macroeconomic Annual Conference, Cambridge, MA, April 2004.

National Bureau of Economic Research Conference on Macroeconomics and Industrial Organization, Cambridge, July 1988; Cambridge, July 1987; Cambridge, July 1986; Chicago, November 1985.

National Bureau of Economic Research Conference on Nonprofit Organizations, Cheeca Lodge, January 2002; Cambridge, October 2001.

National Bureau of Economic Research Conference on Pensions, Baltimore, March 1985; San Diego, April 1984.

National Bureau of Economic Research Conference on Productivity, March 1988; March 1987.

National Bureau of Economic Research Conference on Public Economics, Cambridge, April 1999, April 1994, April 1993, November 1991, April 1991, March 1988, November 1987, March 1987.

National Bureau of Economic Research Conference on Tax Policy and the Economy, Washington, DC, October 2001, November 1998, November 1996, November 1994, November 1991, November 1989.

National Bureau of Economic Research Trans-Atlantic Public Economics Seminar, London, May 2002; Gerzensee, May 2000; Turin, May 1994.

Organization for Economic Cooperation and Development, Economic Policy Committee Meeting, Paris, November 2002, April 2002, November 2001, April 2001.

National Tax Association/Tax Institute of America, Washington, DC, June 2000; Atlanta, October 1999; Arlington, May 1992; Seattle, October 1983.

Organization for Economic Cooperation and Development, Ministerial Meeting, Paris, May 2002, May 2001.

Princeton Center for Economic Policy Conference, October 2000, October 1995.

Sveriges Riksbank/Stockholm School of Economics Conference on Asset Markets and Monetary Policy, Stockholm, Sweden, June 2000.

U.S. House of Representatives, Budget Committee, June 2001.

U.S. House of Representatives, Committee on Ways and Means, Washington, DC, June 2006; June 2005; June 1999; April 1997, June 1996, July 1992.

U.S. Joint Economic Committee, Washington, DC, February 2003, October 2002, October 2001, May 2001.

U. S. Senate Committee on Banking, Housing, and Urban Affairs, Washington, DC, October 2001, May 2001.

U.S. Senate Committee on Budget, February 2003, September 2001.

U. S. Senate Committee on Commerce, Science, and Technology, July 2002.

U.S. Senate Committee on Finance, Washington, DC, February 2003, February 2002, February 1997, January 1995, January 1992, December 1981.

TESTIMONY AS AN EXPERT WITNESS 2016 – 2020

Medtronic, Inc. & Consolidated Subsidiaries v. Commissioner of Internal Revenue, Docket No. 6944-11, in the United States Tax Court. Provided deposition testimony 2020.

Brach Family Foundation Inc. v. AXA Equitable Life Insurance Company, Case no. 16-CV-740 (JMF), in the United States District Court, Southern District of New York. Provided deposition testimony 2019.

In Re: Appraisal of Capital Bank Financial Corp., C.A. No. 2018-0226-TMR, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2019.

In Re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation, Case No. 05-md-1720, in the United States District Court, Eastern District of New York. Provided deposition testimony 2019.

Jeffrey Laydon, on behalf of himself and all others similarly situated v. The Bank of Tokyo-Mitsubishi UFJ, Ltd., et al., Case No. 12-cv-3419, in the United States District Court, for the Southern District of New York. Provided deposition testimony 2019.

Oaktree Principal Fund V, LP, et al. v. Warburg Pincus LLC; et al., Case No. 2:15-cv-08574-PSG-MRW, in the United States District Court, Central District of California, Western Division. Provided deposition testimony 2019.

In re: Appraisal of Panera Bread Company, Case No. 2017-0593-MTZ, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2019. Provided trial testimony 2019.

Kortright Capital Partners LP, et al. v. Investcorp Investment Advisors Limited, Case No. 16cv7619, United States District Court, Southern District of New York. Provided trial testimony 2019.

City of Pontiac General Employees' Retirement System v. Dell, et al., Case No. 1:15-c-00374-LY, in the United States District Court, Western District of Texas, Austin Division. Provided deposition testimony 2018.

Loreley Financing (Jersey) No 28, Limited v. Merrill Lynch, Pierce, Fenner & Smith, Inc., et al., Index No. 652732/2011, in the Superior Court of the State of New York, County of New York, Commercial Division. Provided deposition testimony 2018.

South Carolina Electric & Gas Company v. Swain E. Whitfield, et al., Case No. 3:18-cv-01795-JMC, In the United States District Court for the District of South Carolina, Columbia Division. Provided testimony 2018.

In re: Friends of the Earth and Sierra Club v. South Carolina Electric & Gas Company (SCE&G); In re: Request of the Office of Regulatory Staff for Rate Relief to SCE&G's Rates; In re: Joint Application and Petition of SCE&G and Dominion Energy, Inc., Docket Nos. 2017-207-E, 2017-305-E, and 2017-370-E, Before the Public Service Commission of South Carolina. Provided testimony in 2018.

American Vanguard Corporation v. United States of America, Civil Action No.: 16-694 C, in the United States Court of Federal Claims. Provided deposition testimony 2018.

Joan Obeslo, et al. v. Great-West Capital Management, LLC, et al., Civil Action No. 16-cv-230-CMA-MJW consolidated with No. 16-cv-01215 and No. 16-cv-03162, in the United States District Court, District of Colorado. Provided deposition testimony 2018. Provided trial testimony 2020.

In re: Appraisal of Jarden Corporation, Case No. 12456-VCS, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2018. Provided trial testimony 2019.

Kortright Capital Partners LP, et al. v. Investcorp Investment Advisors Limited, Case No. 16cv7619, United States District Court, Southern District of New York. Provided deposition testimony 2018.

Syncora Guarantee Inc. v. Alinda Capital Partners LLC, American Roads LLC, Macquarie Securities (USA) Inc., and John S. Laxmi, Index No. 651258/2012, In the Supreme Court of the State of New York. Provided deposition testimony 2018.

Saul Chill and Sylvia Chill, for the use and benefit of the Calamos Growth Fund v. Calamos Advisors LLC and Calamos Financial Services LLC, Case No. 15 Civ: 1014 (ER), United States District Court, Southern District of New York. Provided trial testimony 2018.

Great Hill Equity Partners IV, LLP, et al. v. SIG Growth Equity Fund I, LLP, et al, Civil Action No. 7906, In the Court of Chancery for the State of Delaware. Provided trial testimony 2017.

Saul Chill and Sylvia Chill, for the use and benefit of the Calamos Growth Fund v. Calamos Advisors LLC and Calamos Financial Services LLC, Case No. 15 Civ. 1014 (ER), United States District Court, Southern District of New York. Provided deposition testimony 2017.

Broadway Gate Master Fund, Ltd., Pennant Master Fund LP, and Pennant Windward Master Fund, LP v. Ocwen Financial Corporation, et al., Civil Case 9:16-cv-80056, United States District Court, Southern District of Florida. Provided deposition testimony 2017.

In re: Allergan, Inc. Proxy Violation Securities Litigation, Case No. 8:14-cv-2004-DOC (KES), United States District Court, Central District of California, Southern District - Santa Ana. Provided deposition testimony 2017.

In the Matter of: Certain Integrated Circuits with Voltage Regulators and Products Containing Same, Investigation No. 337-TA-1024, United States International Trade Commission, Washington, D.C. Provided deposition testimony 2017.

In re: Appraisal of Solera Holdings, Inc., Case No. 12080-CB, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2017. Provided trial testimony 2017.

In re: Good Technology Corporation Stockholder Litigation, C.A. No. 11580-VCL, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2017.

Mylan Inc. & Subsidiaries, et al. v. Commissioner of Internal Revenue, Docket No. 16145-14, 27086-14, United States Tax Court, Washington, D.C. Provided deposition testimony 2017.

Abbott Laboratories v. Alere, Inc., C.A. No. 12963-VCG, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2017.

In re: LIBOR-Based Financial Instruments Antitrust Litigation, MDL No. 2262, 11 Civ. 2613, United States District Court Southern District of New York. Provided deposition testimony 2017.

In the Matter of: Determination of Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), Docket No. 16-CRB-0003-PR (2018-2022), Before the Copyright Royalty Board Library of Congress, Washington, D.C. Provided deposition testimony 2017. Provided trial testimony 2017.

In re: Ocwen Financial Corporation Securities Litigation, Case No. 14-81057 CIV-WPD, United States District Court, Southern District of Florida. Provided deposition testimony 2017.

Motors Liquidation Company Avoidance Action Trust v. JPMorgan Chase Bank, N.A., et al., Case No. 09-00504, United States Bankruptcy Court, Southern District of New York. Provided deposition testimony 2017. Provided trial testimony 2017.

Great Hill Equity Partners IV, LLP, et al. v. SIG Growth Equity Fund I, LLP, et al, Civil Action No. 7906, In the Court of Chancery for the State of Delaware. Provided deposition testimony 2016.

Jennifer L. Kasilag, et al. v. Hartford Investment Financial Services, LLC, Civil No. 1:2011cv01083, In the United States District Court, District of New Jersey, Camden Vicinage. Provided trial testimony 2016.

In re: Ocwen Financial Corporation Securities Litigation, Case No. 14-81057 CIV-WPD, United States District Court, Southern District of Florida. Provided deposition testimony 2016.

In the Matter of Lynn Tilton; Patriarch Partners, LLC, et al. Administrative Proceeding No. 3-16462, United States of America before the Securities and Exchange Commission. Provided testimony 2016.

Carlyle Capital Corporation Limited, Alan John Roberts, Neil Mather, Christopher Morris, Adrian John, Denis Rabet, solely in their capacity as Joint Liquidators of Carlyle Capital Corporation Limited (In Liquidation) v. William Elias Conway, Jr., James H. Hance, Jr., et al, Court File No. 1510, In the Royal Court of Guernsey, Ordinary Court. Provided testimony 2016.

Illinois Tool Works, Inc. & Subsidiaries v. Commissioner of Internal Revenue, United States Tax Court, Docket No. 10418-14. Provided trial testimony 2016.

General Electric Company v. United States of America, Case No. 3:14-cv-190-JAM, United States District Court, District of Connecticut. Provided deposition testimony in 2016.

Appendix B
Documents Considered

Legal Documents

- [1] In re Polymedica Corporation Securities Litigation, 453 F. Supp. 2d 260 (D. Mass. 2006), September 28, 2006
- [2] Complaint, Securities and Exchange Commission v Rio Tinto plc, Rio Tinto Limited, Thomas Albanese, and Guy Robert Elliott, United States District Court, Southern District of New York, Case No. 1:17-cv-7994, October 17, 2017
- [3] Deposition of Andrey Nikolaev, March 7, 2019
- [4] Order, Securities and Exchange Commission v Rio Tinto plc, Rio Tinto Limited, Thomas Albanese, and Guy Robert Elliott, United States District Court, Southern District of New York, Case No. 1:17-cv-7994, March 18, 2019
- [5] Deposition of David Ovington, July 10, 2019 and exhibits
- [6] Expert Report of Albert Metz, Ph.D, December 20, 2019 and Metz materials produced on January 23, 2020 by the SEC
- [7] Expert Report of Christopher Drewe FCA, December 20, 2019

Credit Ratings Documents

- [8] Moody's Investors Service, "Global Mining Industry: Rating Methodology," September 2005
- [9] Moody's Investors Service, "Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations - Part I," February 2006
- [10] Moody's Investors Service, "Special Comment: The Distribution of Common Financial Ratios by Rating and Industry for North American Non-Financial Corporations: July 2006," August 2006
- [11] S&P Global Ratings, "General: Principles of Corporate and Government Ratings," June 26, 2007, SEC Exhibit 440
- [12] S&P Global Ratings, "Industrials: Key Credit Factors: Methodology And Assumptions On Risks In The Mining Industry," June 23, 2009, SEC Exhibit 441
- [13] Standard & Poor's RatingsXpress Credit Research, "Research Update: Global Mining Group Rio Tinto Upgraded To 'A-' After Reduction In Debt, Improved Maturity Profile; Outlook Stable." April 18, 2011
- [14] S&P Global Credit Portal RatingsDirect, "Rio Tinto PLC," May 31, 2012, RT SEC 00174126-137
- [15] S&P Ratings Services RatingsDirect, "Summary: Rio Tinto PLC," November 29, 2012, Defendants Exhibit 100, SPGI-RIOTINTO-0013676-699
- [16] Email from Elad Jelasko, January 17, 2013, SEC Exhibit 433, SPGI-RIOTINTO-0013286-287
- [17] Email from Karl Nietvelt, January 17, 2013, SEC Exhibit 434, SPGI-RIOTINTO-0013297
- [18] FitchRatings, "Fitch: Rio Tinto Charge Underlines Weak Outlook for Aluminium," January 17, 2013, RIOTINTO-FITCH 002116-118
- [19] Moody's Investors Service, "Announcement: Moody's says Rio Tinto's announcement of \$14 billion impairment has no current impact on ratings," January 18, 2013
- [20] Moody's Investors Service, "Credit Opinion: Rio Tinto, February 4, 2013," RT SEC 00101930-936
- [21] S&P Ratings Services, "Research Update: Rio Tinto Outlook Revised to Negative On Uncertain Deleveraging Prospects; 'A-/A-2' Ratings Affirmed," February 25, 2013, SEC Exhibit 435, RT SEC 00176674-680
- [22] Email from Peter Archbold, February 26, 2013, RIOTINTO-FITCH 002190
- [23] S&P Capital IQ Global Credit Portal, "Rio Tinto PLC," April 18, 2013, SEC Exhibit 437
- [24] Moody's Investors Service, "Financial Statement Adjustments in the Analysis of Non-Financial Corporations," December 21, 2016
- [25] FitchRatings, "Sector Navigators: Addendum to the Corporate Rating Criteria," March 2018
- [26] FitchRatings, "Corporate Rating Criteria: Master Criteria," February 19, 2019
- [27] Moody's, "Rating Scale and Definitions," available at <https://www.moody.com/sites/products/productattachments/ap075378_1_1408_ki.pdf>
- [28] S&P Global Ratings, "S&P Global Ratings Definitions," available at <https://www.standardandpoors.com/en_US/web/guest/article/-/view/sourceId/504352>
- [29] United States Securities and Exchange Commission, "Updated Investor Bulletin: The ABCs of Credit Ratings," available at <<https://www.investor.gov/additional-resources/news-alerts/alerts-bulletins/updated-investor-bulletin-abcs-credit-ratings>>

Rio Tinto and Riversdale Disclosures

- [30] Rio Tinto, 2007 Annual Report, March 16, 2008
- [31] Rio Tinto, 2008 Annual Report, March 16, 2009
- [32] Rio Tinto, 2009 Annual Report, March 15, 2010
- [33] Riversdale Mining, 2010 Annual Report, August 23, 2010
- [34] Riversdale Media Release, December 6, 2010
- [35] Rio Tinto Media Release, Recommended A\$16 per share cash offer by Rio Tinto for Riversdale, December 23, 2010
- [36] Riversdale Media Release, December 23, 2010
- [37] Rio Tinto Media Release, Rio Tinto's offer for Riversdale opens, January 11, 2011
- [38] Rio Tinto Media Release, Rio Tinto's bid for Riversdale extended by 14 days to 4 March 2011 Institutional Acceptance Facility Established, February 10, 2011
- [39] Rio Tinto Media Release, Rio Tinto's bid for Riversdale extended by 14 days to 18 March 2011, February 24, 2011
- [40] Rio Tinto, 2010 Annual Report, March 15, 2011
- [41] Rio Tinto Media Release, Improvements to Rio Tinto's bid for Riversdale, March 10, 2011
- [42] Rio Tinto Media Release, Rio Tinto extends Riversdale offer by three trading days, March 21, 2011
- [43] Rio Tinto Media Release, Form 604 and Institutional Acceptance Facility update, March 29, 2011
- [44] Rio Tinto Media Release, Rio Tinto bid for Riversdale declared unconditional, March 29, 2011
- [45] Rio Tinto Media Release, Form 604 and Institutional Acceptance Facility update, March 30, 2011
- [46] Rio Tinto, Notice of change of interests of substantial holder for RIV, April 4, 2011
- [47] Rio Tinto, Notice of change of interests of substantial holder for RIV, April 5, 2011
- [48] Rio Tinto Media Release, Important update in Rio Tinto bid for Riversdale, April 6, 2011
- [49] Rio Tinto, Notice of change of interests of substantial holder for RIV, April 6, 2011
- [50] Rio Tinto, Notice of change of interests of substantial holder for RIV, April 7, 2011
- [51] Riversdale Media Release, April 7, 2011
- [52] Rio Tinto Media Release, Rio Tinto assumes control of Riversdale Mining Limited, April 8, 2011
- [53] Interim 2011 Rio Tinto plc Earnings Presentation Transcript, August 4, 2011, Thomson Reuters
- [54] Rio Tinto Media Release, Rio Tinto announces record first half earnings, August 4, 2011
- [55] Rio Tinto Investor Seminar Slides, September 20, 2011
- [56] Rio Tinto Investor Seminar Transcript, September 20, 2011, CQ Transcriptions, LLC
- [57] Rio Tinto Media Release, Fourth quarter 2011 operations review, January 17, 2012
- [58] Full Year 2011 Rio Tinto PLC Earnings Presentation Transcript, February 9, 2012, Thomson Reuters
- [59] Rio Tinto, 2011 Annual Report, March 16, 2012
- [60] Rio Tinto Media Release, First quarter 2012 operations review, April 17, 2012
- [61] Rio Tinto Media Release, Rio Tinto makes first coal shipment from Mozambique, June 25, 2012
- [62] Interim 2012 Rio Tinto PLC Earnings Presentation Transcript, August 8, 2012, Thomson Reuters

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[63]	Rio Tinto 2012 Half Year Results London Teleconference and Q&A Transcript, August 8, 2012
[64]	Rio Tinto 2012 Half Year Results North America Teleconference and Q&A Transcript, August 8, 2012
[65]	Rio Tinto Media Release, Rio Tinto announces first half underlying earnings of \$5.2 billion, August 8, 2012
[66]	Rio Tinto, 2012 Form 6-K, August 9, 2012
[67]	Rio Tinto Media Release, Third quarter 2012 operations review, October 16, 2012
[68]	Rio Tinto Investor Seminar November 2012 - Script, November 29, 2012
[69]	Rio Tinto Investor Seminar Sydney Q&A Transcript, November 29, 2012
[70]	Rio Tinto Media Release, Rio Tinto Investor Seminar, November 29, 2012
[71]	Rio Tinto Media Release, Fourth quarter 2012 operations review, January 15, 2013
[72]	Rio Tinto Media Release, Rio Tinto impairments and management changes, January 17, 2013
[73]	Rio Tinto, 2012 Annual Report, March 15, 2013
[74]	Rio Tinto, "About," available at < https://www.riotinto.com/about >
[75]	Rio Tinto, "Dual Listed Companies Structure," available at < https://www.riotinto.com/investors/dlc-structure-4942.aspx >
[76]	Rio Tinto, 2013 Annual Report, March 14, 2014

Annual Reports and SEC Filings of Other Companies

[77]	A.T. Massey Coal Company, Inc. FY2010 Form 10-K
[78]	AK Steel Holding Corp. FY2011 Form 10-K
[79]	AK Steel Holding Corp. FY2012 Form 10-K
[80]	Alcoa Corp. FY2011 Form 10-K
[81]	Alcoa Corp. FY2012 Form 10-K
[82]	Allegheny Technologies Inc. FY2011 Form 10-K
[83]	Allegheny Technologies Inc. FY2012 Form 10-K
[84]	Allied Nevada Gold Corp. FY2011 Form 10-K
[85]	Allied Nevada Gold Corp. FY2012 Form 10-K
[86]	Alpha Appalachia Holdings, Inc. Form 8-K
[87]	Alpha Natural Resources Inc. FY2011 Form 10-K
[88]	Alpha Natural Resources Inc. FY2012 Form 10-K
[89]	AMCOL International Corp. FY2011 Form 10-K
[90]	AMCOL International Corp. FY2012 Form 10-K
[91]	Anglo American Plc FY2011 Annual Report
[92]	Anglo American Plc FY2012 Annual Report
[93]	Arch Coal Inc. FY2011 Form 10-K
[94]	Arch Coal Inc. FY2012 Form 10-K
[95]	Barrick Gold Corp. FY2011 Annual Report
[96]	Barrick Gold Corp. FY2012 Annual Report
[97]	BHP Billiton FY2011 Annual Report
[98]	BHP Billiton FY2012 Annual Report
[99]	Carpenter Technology Corp. FY2011 Form 10-K
[100]	Carpenter Technology Corp. FY2012 Form 10-K
[101]	Century Aluminum Co. FY2011 Form 10-K
[102]	Century Aluminum Co. FY2012 Form 10-K
[103]	Cliffs Natural Resources Inc. FY2011 Form 10-K
[104]	Cliffs Natural Resources Inc. FY2012 Form 10-K
[105]	Cloud Peak Energy Inc. FY2011 Form 10-K
[106]	Cloud Peak Energy Inc. FY2012 Form 10-K
[107]	Coeur d'Alene Mines Corp. FY2011 Form 10-K
[108]	Coeur d'Alene Mines Corp. FY2012 Form 10-K
[109]	Commercial Metals Co. FY2011 Form 10-K
[110]	Commercial Metals Co. FY2012 Form 10-K
[111]	Compass Minerals International Inc. FY2011 Form 10-K
[112]	Compass Minerals International Inc. FY2012 Form 10-K
[113]	Consol Energy Inc. FY2011 Form 10-K
[114]	Consol Energy Inc. FY2012 Form 10-K
[115]	Freeport McMoRan Copper & Gold Inc. FY2011 Form 10-K
[116]	Freeport McMoRan Copper & Gold Inc. FY2012 Form 10-K
[117]	General Moly Inc. FY2011 Form 10-K
[118]	General Moly Inc. FY2012 Form 10-K
[119]	GlencoreXstrata FY2013 Annual Report
[120]	Globe Specialty Metals, Inc. FY2011 Form 10-K
[121]	Globe Specialty Metals, Inc. FY2012 Form 10-K
[122]	Goldcorp Inc. FY2011 Annual Report
[123]	Goldcorp Inc. FY2012 Annual Report
[124]	Haynes International Inc. FY2011 Form 10-K
[125]	Haynes International Inc. FY2012 Form 10-K
[126]	Hecla Mining Co. FY2011 Form 10-K
[127]	Hecla Mining Co. FY2012 Form 10-K
[128]	Horsehead Holding Corp. FY2011 Form 10-K
[129]	Horsehead Holding Corp. FY2012 Form 10-K
[130]	International Coal Group Inc, Form 8-K
[131]	International Coal Group Inc. FY2010 Form 10-K
[132]	James River Coal Co. FY2011 Form 10-K
[133]	James River Coal Co. FY2012 Form 10-K
[134]	Kaiser Aluminum Corp. FY2011 Form 10-K

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[135]	Kaiser Aluminum Corp. FY2012 Form 10-K
[136]	Materion Corp. FY2011 Form 10-K
[137]	Materion Corp. FY2012 Form 10-K
[138]	McEwen Mining Inc. FY2011 Form 10-K
[139]	McEwen Mining Inc. FY2012 Form 10-K
[140]	Molycorp Inc. FY2011 Form 10-K
[141]	Molycorp Inc. FY2012 Form 10-K
[142]	Newmont Corp. FY2011 Form 10-K
[143]	Newmont Corp. FY2012 Form 10-K
[144]	Nucor Corp. FY2011 Annual Report
[145]	Nucor Corp. FY2012 Annual Report
[146]	Patriot Coal Corp. FY2011 Form 10-K
[147]	Patriot Coal Corp. FY2012 Form 10-K
[148]	Peabody Energy Corp. FY2011 Form 10-K
[149]	Peabody Energy Corp. FY2012 Form 10-K
[150]	Reliance Steel & Aluminum Co. FY2011 Form 10-K
[151]	Reliance Steel & Aluminum Co. FY2012 Form 10-K
[152]	Royal Gold Inc. FY2011 Form 10-K
[153]	Royal Gold Inc. FY2012 Form 10-K
[154]	RTI International Metals Inc. FY2011 Form 10-K
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[156]	Schnitzer Steel Industries Inc. FY2011 Form 10-K
[157]	Schnitzer Steel Industries Inc. FY2012 Form 10-K
[158]	Steel Dynamics Inc. FY2011 Form 10-K
[159]	Steel Dynamics Inc. FY2012 Form 10-K
[160]	Stillwater Mining Co. FY2011 Form 10-K
[161]	Stillwater Mining Co. FY2012 Form 10-K
[162]	Titanium Metals Corp FY2011 Form 10-K
[163]	Titanium Metals Corporation, Form 8-K
[164]	United States Steel Corp. FY2011 Form 10-K
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Appendix C.1
Descriptions of Key Events Related to RTCM
December 2010 through January 2013

	Event Date ^a			Time Stamp ^b			Source	Detailed Description
	New York							
	City	London	Sydney	U.S. ET	GMT/BST	Aus ET		
	[A]	[B]	[C]	[D]	[E]	[F]		
[1]	6-Dec-10	6-Dec-10	6-Dec-10	5-Dec-10 8:32 AM	5-Dec-10 1:32 PM	6-Dec-10 12:32 AM	"Rio Tinto in £2 bn African mining bid," <i>The Sunday Telegraph</i> , December 5, 2010 ^c	<i>The Sunday Telegraph</i> reports that, according to sources, Rio Tinto is in talks to buy Riversdale for around A\$15 (£9.44) a share.
[2]	6-Dec-10	6-Dec-10	6-Dec-10	5-Dec-10 8:32 AM	5-Dec-10 1:32 PM	6-Dec-10 12:32 AM	"Rio Tinto in talks to buy Riversdale -paper," <i>Reuters</i> , December 5 2010	<i>Reuters</i> cites <i>The Sunday Telegraph</i> and reports Rio Tinto is in talks to buy Riversdale.
[3]	6-Dec-10	6-Dec-10	6-Dec-10	5-Dec-10 6:12 PM	5-Dec-10 11:12 PM	6-Dec-10 10:12 AM	Riversdale Media Release, December 6, 2010	Riversdale announces that: "[t]he Company has had discussions with Rio Tinto concerning a possible transaction at the corporate level for indicative consideration of A\$15.00 per Riversdale share. These discussions were undertaken in confidence and Rio Tinto advised the Company that it is not in a position to submit a proposal for the potential acquisition of the Company."
[4]	23-Dec-10	23-Dec-10	23-Dec-10	22-Dec-10 7:57 PM	23-Dec-10 12:57 AM	23-Dec-10 11:57 AM	Riversdale Media Release, December 23, 2010	Rio Tinto announces that it had entered into an agreement to acquire all the issued and outstanding shares of Riversdale Mining Limited by way of a recommended off-market takeover offer for a valuation of approximately A\$3.9 billion.
[5]	29-Mar-11	29-Mar-11	29-Mar-11	28-Mar-11 6:56 PM	28-Mar-11 11:56 PM	29-Mar-11 9:56 AM	Rio Tinto Media Release, <i>Form 604 and Institutional Acceptance Facility update</i> , March 29, 2011	Rio Tinto announces that its relevant interest in Riversdale shares had increased from 39.66% to 41.04%.
[6]	29-Mar-11	29-Mar-11	30-Mar-11	29-Mar-11 1:23 AM	29-Mar-11 6:23 AM	29-Mar-11 4:23 PM	Rio Tinto Media Release, <i>Rio Tinto bid for Riversdale declared unconditional</i> , March 29, 2011	Rio Tinto declares its bid for Riversdale unconditional and that its offer price for Riversdale will increase to A\$16.50 if it obtains more than a 47 percent interest by 6 April 2011.
[7]	30-Mar-11	30-Mar-11	30-Mar-11	29-Mar-11 6:58 PM	29-Mar-11 11:58 PM	30-Mar-11 9:58 AM	Rio Tinto Media Release, <i>Form 604 and Institutional Acceptance Facility update</i> , March 30, 2011	Rio Tinto announces it increased its relevant interest in Riversdale shares to 98,277,606 ordinary shares (41.51%).
[8]	4-Apr-11	4-Apr-11	4-Apr-11	3-Apr-11 8:07 PM	4-Apr-11 1:07 AM	4-Apr-11 10:07 AM	Rio Tinto, <i>Notice of change of interests of substantial holder for RIV</i> , April 4, 2011	Rio Tinto announces it increased its relevant interest in Riversdale from, 98,247,606 ordinary shares (41.51%) to 102,119,984 ordinary shares (43.14%).
[9]	5-Apr-11	5-Apr-11	5-Apr-11	4-Apr-11 8:01 PM	5-Apr-11 1:01 AM	5-Apr-11 10:01 AM	Rio Tinto, <i>Notice of change of interests of substantial holder for RIV</i> , April 5, 2011	Rio Tinto announces it increased its relevant interest in Riversdale from 102,119,984 ordinary shares (43.14%) to 104,906,440 ordinary shares (44.31%).
[10]	6-Apr-11	6-Apr-11	6-Apr-11	5-Apr-11 7:42 PM	6-Apr-11 12:42 AM	6-Apr-11 9:42 AM	Rio Tinto, <i>Notice of change of interests of substantial holder for RIV</i> , April 6, 2011	Rio Tinto announces it increased its relevant interest in Riversdale from 104,906,440 ordinary shares (44.31%) to 110,746,615 ordinary shares (46.78%).
[11]	6-Apr-11	6-Apr-11	7-Apr-11	6-Apr-11 4:46 AM	6-Apr-11 9:46 AM	6-Apr-11 6:46 PM	Rio Tinto Media Release, <i>Important update in Rio Tinto bid for Riversdale</i> , April 6, 2011	Rio Tinto announces it obtained an interest in 49.49 percent of Riversdale Mining Limited. As a result, its offer price for Riversdale increased to A\$16.50 and the offer period was automatically extended by two weeks to 20 April 2011.
[12]	7-Apr-11	7-Apr-11	7-Apr-11	6-Apr-11 7:22 PM	7-Apr-11 12:22 AM	7-Apr-11 9:22 AM	Rio Tinto, <i>Notice of change of interests of substantial holder for RIV</i> , April 7, 2011	Rio Tinto announces it increased its relevant interest in Riversdale to 117,268,022 ordinary shares (49.53%).

Appendix C.1
Descriptions of Key Events Related to RTCM
December 2010 through January 2013

	Event Date ^a			Time Stamp ^b			Source	Detailed Description
	New York							
	City	London	Sydney	U.S. ET	GMT/BST	Aus ET		
	[A]	[B]	[C]	[D]	[E]	[F]		
[13]	7-Apr-11	7-Apr-11	7-Apr-11	6-Apr-11 8:23 PM	7-Apr-11 1:23 AM	7-Apr-11 10:23 AM	Riversdale Media Release, April 7, 2011	Riversdale announces that the Riversdale Board unanimously recommended Riversdale shareholders to accept the Rio Tinto offer in the absence of a superior proposal and that Riversdale's Chairman of the Board would resign at the earlier of Rio Tinto acquiring a greater than 50% interest or the offer closing. Riversdale also announces that it appointed three new Directors, all nominees of Rio Tinto: Mr. Douglas Richie, Mr. David Peever, and Mr. Matthew Coulter.
[14]	8-Apr-11	8-Apr-11	11-Apr-11	8-Apr-11 2:23 AM	8-Apr-11 7:23 AM	8-Apr-11 4:23 PM	Rio Tinto Media Release, <i>Rio Tinto assumes control of Riversdale Mining Limited</i> , March 8, 2011	Rio Tinto announces it has assumed control of Riversdale Mining with greater than 50 percent shareholding, which could increase further with the takeover offer remaining open until 20 April 2011.
[15]	4-Aug-11	4-Aug-11	5-Aug-11	4-Aug-11 2:15 AM	4-Aug-11 7:15 AM	4-Aug-11 4:15 PM	Rio Tinto Media Release, <i>Rio Tinto announces record first half earnings</i> , August 4, 2011	Rio Tinto announces HY2011, with record earnings, EBITDA, and cash flow from operations. Rio Tinto also announces it completed its acquisition of Riversdale on August 1 and that first coal from Benga is anticipated by the end of 2011.
[16]	1-Mar-12	1-Mar-12	2-Mar-12	1-Mar-12 10:29 AM	1-Mar-12 3:29 PM	2-Mar-12 2:29 AM	"INTERVIEW-Mozambique rejects coal barging study -minister," <i>Reuters</i> , March 1, 2012	First available report that the Mozambican government has rejected the barging proposal submitted by Riversdale due to environmental concerns. Minister Zucula assures the media that the government intends to invest in railway infrastructure and promises to build enough rail capacity to carry Rio Tinto's projected exports.
[17]	8-Aug-12	8-Aug-12	9-Aug-12	8-Aug-12 2:15 AM	8-Aug-12 7:15 AM	8-Aug-12 4:15 PM	Rio Tinto Media Release, <i>Rio Tinto announces first half underlying earnings of \$5.2 billion</i> , August 8, 2012	Rio Tinto releases HY 2012 earnings, among other information.
[18]	8-Aug-12	8-Aug-12	9-Aug-12	8-Aug-12 4:30 AM	8-Aug-12 9:30 AM	8-Aug-12 6:30 PM	Rio Tinto 2012 Half Year Results London Teleconference and Q&A Transcript, August 8, 2012	Rio Tinto holds earnings presentation in London. Mr. Albanese makes two of the three August 2012 Albanese Statements, saying: "If anything I'd say the work we've been doing over the past 12 months indicates we probably have more potential in total as we go forward. And again this is truly a world-class basin deposit."
[19]	8-Aug-12	9-Aug-12	9-Aug-12	8-Aug-12 11:00 AM	8-Aug-12 4:00 PM	9-Aug-12 1:00 AM	Rio Tinto 2012 Half-Year Conference Call with North American Analysts, August 8, 2012	Rio Tinto holds a conference call with North American analysts. Mr. Albanese makes the third of three August 2012 Albanese Statements, saying: "Benga, Zambeze and the regional area that we've got in the Moatize, if anything, is more prospective than I would have said a year ago as we look at the full range of opportunities, not just in coking coal, in other opportunities in the basin."

Appendix C.1
Descriptions of Key Events Related to RTCM
December 2010 through January 2013

	Event Date ^a			Time Stamp ^b			Source	Detailed Description
	New York							
	City	London	Sydney	U.S. ET	GMT/BST	Aus ET		
	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
[20]	29-Nov-12	29-Nov-12	29-Nov-12	28-Nov-12 10:30 PM	29-Nov-12 3:30 AM	29-Nov-12 2:30 PM	Rio Tinto Media Release, <i>Rio Tinto Investor Seminar</i> , November 29, 2012; Rio Tinto, Investor Seminar November 2012 - Script, November 29, 2012	Rio Tinto holds investor seminar at which it makes several announcements. Mr. Albanese makes the November 2012 Albanese Statement, saying: "We continue to view the Moatize Basin as a long term opportunity with the potential to grow beyond 25mtpa."
[21]	17-Jan-13	17-Jan-13	18-Jan-13	17-Jan-13 2:23 AM	17-Jan-13 7:23 AM	17-Jan-13 6:23 PM	Rio Tinto Media Release, <i>Rio Tinto impairments and management changes</i> , January 17, 2013	<p>Rio Tinto announces that "Rio Tinto expects to recognise a non-cash impairment charge of approximately US\$14 billion (post tax) in its 2012 full year results. These impairments include an amount of approximately US\$3 billion relating to Rio Tinto Coal Mozambique (RTCM), as well as reductions in the carrying values of Rio Tinto's aluminium assets... in the range of US\$10-11 billion... Tom Albanese has stepped down as chief executive... and Iron Ore chief executive Sam Walsh has been appointed as his successor with effect from today. Doug Ritchie... has also stepped down by mutual agreement."</p> <p>Regarding the RTCM impairment, Rio Tinto stated that "In Mozambique, the development of infrastructure to support the coal assets is more challenging than Rio Tinto originally anticipated. Rio Tinto sought to transport coal by barge along the Zambezi River, but this option did not receive formal approvals. These infrastructure constraints, combined with a downward revision to estimates of recoverable coking coal volumes on the RTCM tenements, have led to a reassessment of the overall scale and ramp up schedule of RTCM, and consequently to the impairment announced today. Rio Tinto continues to engage with the Government of Mozambique on all transport infrastructure options."</p>

Notes and Sources:

- [a] The event dates reflect the first trading day the news reached the market in each time zone.
- [b] The time stamp indicates the time in the prevailing time zone for each city at which the media release was published, the time the initial presentation relating to the event was published, or the time that the event occurred, as appropriate. In London, the prevailing time zone is BST during daylight savings time and GMT for the rest of the year.
- [c] This article was published before the noted time, but did not have a timestamp on Factiva. The time given is the time that the *Reuters* article citing the original *Sunday Telegraph* article was published. Factiva. Email from Ben Pearson, August 9, 2012, Defendants' Exhibit 165, RT_SEC_00121847-848.

Appendix C.2

News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 9, 2011

News Report Date	Reactions	Source
<i>3/28/2011 6:56 PM: The aggregate of Riversdale shares held through acceptance facility and relevant interest increases from 39.66% to 41.04%.</i>		
[1]	<p>Rio Tinto in talks to salvage A\$3.9 bln bid for Riversdale</p> <p>"Global miner Rio Tinto is negotiating with one of two major shareholders in Riversdale Mining to secure a majority stake in the Africa-focused miner... Rio Tinto's lawyer said in a letter released to the Australian stock exchange on Tuesday that Rio 'genuinely believes that an outcome of those discussions is likely to emerge during the course of this morning'."</p>	Reuters
[2]	<p>Rio's day of reckoning on Riversdale bid</p> <p>"While there was an expectation that Rio Tinto may well extend its improved \$16.50 offer for another day or so, the reality is it is unlikely to extend its control without declaring the offer unconditional... While there has been speculation index funds control as much as 7 per cent of Riversdale, the real number is thought to be closer to 5 per cent... In that instance Rio should also be able to secure access to Riversdale executives' unvested options equivalent to about 2-3 per cent of the company. Together with the help from index funds, that could get Rio Tinto to 48 per cent of Riversdale. This would effectively hand it control at just above the combined 47 per cent holding of the two customer-shareholder CSN of Brazil and India's Tata... The fact Riversdale shares are still trading strong, closing at \$16.10 yesterday, indicates that the market remains confident Rio will not walk away."</p>	The Australian
[3]	<p>Corporate News: Corporate Watch: Riversdale Mining Bid Fails To Reach Majority Stake</p> <p>"Costas Condoleona partner at law firm Minter Ellison Group, which represents Rio Tinto in a letter released through the Australian stock exchange said Rio is in talks with a major shareholder to secure shares to gain it a majority stake. A Rio Tinto spokeswoman said the company remained hopeful its takeover offer would succeed."</p>	The Wall Street Journal

Appendix C.2
News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale
March 28, 2011 through April 9, 2011

News Report Date		Reactions	Source
3/29/2011 1:23 AM: Rio Tinto's bid for Riversdale is unconditional and the offer price will increase to A\$16.50 if Rio Tinto obtains more than 47 percent interest by April 6, 2011.			
[4]	3/29/2011	<p>Rio Tinto's Moment of Truth "An announcement from Rio this evening that it had declared the offer unconditional but would still increase the offer to \$16.50 a share if it obtained more than 47 per cent signals that it is still talking to the prospective seller and is still hopeful that it can prise loose sufficient shares to give it a chance of achieving outright control. It would make sense for both Tata and CSN to have Rio Tinto as the controlling shareholder in what would effectively be a joint venturing of Riversdale... Rio Tinto has the resources and skill base to develop the project; they don't."</p>	Business Spectator
[5]	3/29/2011	<p>RPT-BREAKINGVIEWS-Rio right to play long game with Riversdale "The UK mining giant has just dropped the 50 percent acceptance condition on its offer for the coal group. It is not common for bidders to be so accommodating. But Rio is right to play the long game... If the path to full control isn't clear, Rio's commitment is beyond doubt. CSN might be persuaded to sell some shares in exchange for supply agreements. And there could be opportunities to pick up shares more cheaply should coal prices correct. Rio's softly, softly approach should pay off."</p>	Reuters
[6]	3/29/2011	<p>Rio Tinto Fails in Sweetened Riversdale Bid "Rio's effective interest had risen to 41.04%, short of the more than 50% threshold previously set for the offer by a late Monday deadline... Analysts said Rio may be able to creep up to the 47% mark now that the bid is unconditional, something that had prevented some fund managers in Australia from accepting the offer."</p>	The Wall Street Journal
[7]	3/30/2011	<p>Rio lowers bar -- and surprises Riversdale's top holders "Rio Tinto seized the initiative yesterday and almost certainly wrong-footed the two major shareholder holdouts...The significance of that lowered minimum acceptance level is that Tata and CSN in aggregate own 47 per cent of Riverdale [sic] and if Rio can secure more than that percentage, it would give it effective control and enable it secure [sic] control of the Riversdale board...Rio is thought to be confident that index-tracking funds, which are unable to accept until an offer is unconditional, hold at least 6 per cent and will now accept giving it control. Tata and CSN appear to have overplayed their hands."</p>	The Australian
[8]	3/30/2011	<p>Rio makes move on Riversdale "Rio is expected to pull in 5 per cent to 6 per cent of Riversdale stock now held by index funds, to help lift its stake above 47 per cent."</p>	The Australian Financial Review

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News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 9, 2011

News Report Date	Reactions	Source
[9]	<p>FTSE lifted by hopes of rising M&A activity</p> <p>"Rio Tinto led the miners after its offer for Riversdale Mining, the Australia-listed coal producer, was declared unconditional. Rio, which already owns 41 per cent of the shares in Riversdale, aims to take out smaller shareholders so it can push its holding up to 47 per cent and gain full control of the company."</p>	Financial Times
[10]	<p>Riversdale minority holders seen accepting Rio bid</p> <p>"Rio, Tata, and CSN together already hold just under 90% of Riversdale's shares, and other shareholders are likely to accept Rio Tinto's offer as they will likely be left with a stock that will be hard to trade, according to analysts...Hayden Bairstow, analyst at CLSA said that, 'given the risk that they will end up with a highly illiquid stock, from a minority perspective I would expect to see most people accept it.' Rio may not get majority control of the company, but the analysts said that the miner is unlikely to be too worried about that. 'If they end without a majority position, they are still going to be happy,' said Drew at RBC. 'It's a large-scale, good-quality coking-coal asset. There's not too many of those around, and it looks like Rio's securing a pretty decent interest in it. Bairstow at CLSA said that if Riversdale does end up with three major shareholders, 'there will certainly be deals done, or they will restructure the whole business, I suspect, in terms of ownership or offtake agreements. Riversdale minority shareholders will likely accept Rio Tinto's buy-out offer, but whether the firm will obtain majority control in Riversdale remains unclear, analysts say."</p>	MarketWatch
[11]	<p>Rio's tilt for Riversdale falls short</p> <p>"But Rio has left the door open for it to pay the sweetened bid price of \$16.50 a share to CSN and all other shareholders if it gets to more than 47 per cent of Riversdale shares by 7pm on April 6, unless extended...securing the additional 5.96 per cent remains a big task. Riversdale went into a trading halt yesterday. It last traded at \$16.10 a share - a sure enough indication that the market doubted Rio's ability to get to 50 per cent."</p>	The Sydney Morning Herald

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News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 9, 2011

News Report Date	Reactions	Source
<i>3/29/2011 6:58 PM: Rio Tinto's relevant interest in Riversdale increases from 41.04% to 41.51%.</i>		
[12] 4/1/2011	<p>Thai firm's TSI bid a godsend for key shareholder</p> <p>"Rio Tinto has adopted an aggressive strategy to try to conscript hedge funds into helping it to fall over the line in the battle for control of Riversdale Mining."</p> <p>"Rio has been struggling to make headway because the two major shareholders, Inida's Tata Steel and Brazilian Steelmaker CSN have been holding out. Tata owns 27.1 per cent of Riversdale, while CSN owns 19.9 per cent, an aggregate of 47 per cent."</p> <p>"While the earlier target of more than 50 per cent would have given Rio outright control, the lower threshold of more than 47 per cent would still give it effective control, enabling the entity to outvote Tata and CSN and to take control of the Riversdale board."</p> <p>"Under the IAF [Insitutional Acceptance Facility], Rio could call up the shares in the IAF once it had declared the offer unconditional. It did so promptly, before any hedge funds could withdraw their shares from the facility, and now owns more than 41 per cent of Riversdale. That gave the hedge funds an incentive to try to help Rio to obtain its new target of more than 47 per cent of Riversdale, to ensure that they receive \$16.50 a share rather than \$16. They appear to have stepped into the market, with 3 million shares changing hands on Tuesday, at up to \$16.44 a share, and a further million yesterday, with the shares closing up 7c at \$2.51, fractionally above the conditional offer price of \$16.50. That means a further 2 per cent of Riversdale has been purchased, which can be expected to be tipped into the offer, lifting Rio above 43 per cent."</p> <p>"A further 6 per of Riversdale is held by index funds and long only institutions. The index funds can be expected to tip into the offer now that S&P has said it will remove Riversdale from the S&P ASX 200 index... Some could accept as early as today, now that the March quarter has ended, while others may wait until April 6, when Riversdale will be removed from the index. If Rio can obtain those shares it looks like it may creep past its target of more than 47 per cent of Riversdale and so secure effective control."</p>	The Australian
<i>4/3/2011 8:07 PM: Rio Tinto's relevant interest in Riversdale increases from 41.51% to 43.14%.</i>		
[13] 4/3/2011	<p>Rio Tinto Increases Riversdale Stake to 43.14%</p> <p>"Rio Tinto Ltd. (RIO) said Monday its interest in takeover target Riversdale Mining Ltd. (RIV.AU) has risen to 43.14% , taking it closer to the commanding position it is chasing in the Africa-focused coal company."</p>	Dow Jones Newswires

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News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 9, 2011

News Report Date		Reactions	Source
<i>4/4/2011 8:01 PM: Rio Tinto's relevant interest in Riversdale increases from 43.14% to 44.31%.</i>			
[14]	4/4/2011	Riversdale Directors Dispose of Shares As Rio Creeps Closer "Directors in Riversdale Mining Ltd. (RIV.AU) disposed of shares and options worth around 1.7% of the company's market capitalization, as Rio Tinto PLC (RIO) US\$4 billion bid for the company crept closer to its 47% target level, Riversdale said Tuesday."	Dow Jones Newswires
<i>4/5/2011 7:42 PM: Rio Tinto's relevant interest in Riversdale increases from 44.31% to 46.78%.</i>			
[15]	4/5/2011	Rio Tinto Interest In Riversdale Mining Rises to 46.78% "Rio Tinto PLC (RIO) said Wednesday its interest in Riversdale Mining Ltd. (RIV.AU) has risen to 46.78%, marginally shy of the target it set itself for effective control of the Africa-focused coal producer ahead of a late-day deadline."	Dow Jones Newswires
<i>4/6/2011 4:46 AM: Rio Tinto has obtained an interest in 49.49 percent of all the Riversdale shares. As a result, Rio Tinto has now increased the offer price to A\$16.50 cash per share.</i>			
[16]	4/6/2011	Rio Tender Offer Exceeds Its Goal and Gets Extended; DealBook "Rio Tinto said on Wednesday that its tender offer had obtained the acceptance of 49.49 percent of Riversdale Mining shares... The announcement puts Rio Tinto within inches of taking full control of the mining company, after its decision last week to make its bid unconditional...It is entirely possible that, within that time, Rio Tinto will gain more than half the company despite the fact that its two largest shareholders, the steel makers Tata and Companhia Siderurgica Nacional, hold 47 percent of Riversdale."	The New York Times
[17]	4/7/2011	Late surge puts Rio in driver's seat on Riversdale "Rio Tinto has come within a whisker of formal control of Riversdale Mining through its \$3.9 billion bid for the Perth miner, grabbing a 49.49 per cent stake that has boosted its unconditional takeover offer... It is now a near certainty that Rio will end up owning more than half of Riversdale's shares. But even if it does not, the 49.49 per cent stake will ensure it is nearly impossible for Riversdale's two other big shareholders, which hold a combined 47 per cent, to block Rio's intentions to develop the Riverdale mines the way it wants."	The Australian

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News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 9, 2011

News Report Date		Reactions	Source
[18]	4/7/2011	In the Congo line, Xstrata adds a groovy Sundance twist "Rio declared its offer unconditional last week.. The declaration triggered acceptances from Riversdale management, which in turn reduced the free float of Riversdale below a minimum 30 per cent, prompting the company to lose its positioning in the ASX 200 and index funds to sell their holdings."	The Australian Financial Review
[19]	4/7/2011	Rio builds up stake "Rio is poised to snare control of its \$3.9 billion target Riversdale Mining after amassing a 49.49 per cent stake in the coal miner."	Herald-Sun
[20]	4/7/2011	PRESS DIGEST - British business - April 7 "Rio Tinto's 2.5 billion pound offer for Riversdale Mining moved closer to completion after the company said it had taken control of more than 47 percent of the equity in the coal mining group."	Reuters

4/6/2011 7:22 PM: Rio Tinto's relevant interest in Riversdale increases to 49.53%.

[21]	4/6/2011	MARKET TALK: Rio Tinto Edges Closer to Riversdale Takeover "A surge in acceptances has pushed Rio Tinto's (RIO) interest in Riversdale (RIV.AU) to 49.53%, increasing the likelihood of a successful takeover that would give it control of two promising coal projects in Africa."	Dow Jones Newswires
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4/6/2011 8:23 PM: The Riversdale Board unanimously recommends Riversdale shareholders to accept the Rio Tinto offer in the absence of a superior proposal. Riversdale appoints three new Directors from Rio Tinto: Mr. Douglas Richie, Mr. David Peever, and Mr. Matthew Coulter.

[22]	4/7/2011	Riversdale is Rio's "Rio Tinto held its nerve throughout the protracted process of its bid for Riversdale Mining and has, almost against the odds, been able to emerge with effective control of the Mozambique coal miner and is within sight of outright control. Today Rio Tinto announced that it has a relevant interest in 49.53 per cent of Riversdale. Its offer is now unconditional... Once Rio Tinto gets past 50 per cent or the offer closes , Rio Tinto will occupy half the non-executive seats within the boardroom... it would now appear certain that it will obtain majority control and that Riversdale will become a Rio Tinto subsidiary."	Business Spectator
[23]	4/7/2011	Rio Tinto grabs the reins at Riversdale " Miner Rio Tinto has in effect taken control of Riversdale Mining ... even though Rio remains half a percentage point shy of owning a majority of its shares... A boardroom shuffle on Thursday signalled an impending change of control."	Financial Times

Appendix C.2
News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale
March 28, 2011 through April 9, 2011

News Report Date		Reactions	Source
[24]	4/7/2011	PRESS DIGEST-Australian Business News - April 8 "Mining giant Rio Tinto on Wednesday night came close to gaining control of Riversdale Mining after securing a 49.53 stake in the company. Riversdale executive chairman Michael O'Keefe and non-executive director Andrew Lowe will be replaced by three Rio executives after the April 20 extended offer deadline, or if Rio wins outright control of Management... Rio is expected to acquire a minimum holding of 50.1 percent. "	Reuters
[25]	4/7/2011	Rio Adds 3 to Riversdale Board "Closing in on a majority stake in Riversdale Mining Ltd., Rio Tinto took three seats on its takeover target's board ahead of a detailed review of its assets."	The Wall Street Journal
[26]	4/8/2011	Rio to take major stake in Riversdale "Rio Tinto should soon gain a majority stake in Riversdale Mining, prompting questions about whether steel makers Tata Steel and Companhia Siderurgica Nacional (CSN) will sell their combined 47 per cent or continue funding the company's development of the Benga coking-coal mine in Mozambique."	The Australian Financial Review
[27]	4/8/2011	Rio trio settle in at target " Rio Tinto has all but claimed victory in its \$3.9 billion takeover tilt at Riversdale Mining after appointing three directors to the target's board... Rio's stake in Riversdale is now 49.53 per cent."	Herald-Sun
<i>4/8/2011 2:23 AM: Rio Tinto assumes control of Riversdale mining with over 50 percent shareholding, which may increase due to the offer remaining open until April 20, 2011.</i>			
[28]	4/8/2011	ADR Report: Shares Mostly Higher On Mining Sector Gains "Rio Tinto PLC has assumed control of Riversdale Mining Ltd., with its interest in the Africa-focused coal producer rising above 50% Friday and with the prospect of increasing it further before the takeover offer closes in less than two weeks. Shares ended up 2.1% at \$73.93."	Dow Jones Newswires ^a
[29]	4/8/2011	Mining sector leads London stocks higher; ICAP falls after downgrade; Carnival shares also drop "Meanwhile, Rio Tinto PLC rose 3.2% after the mining giant said it has acquired a majority interest in Riversdale Mining Ltd. Rio Tinto's stake may increase further with its takeover offer for Riversdale remaining open until April 20."	MarketWatch

Appendix C.2
News Media Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale
March 28, 2011 through April 9, 2011

News Report Date		Reactions	Source
[30]	4/8/2011	Miners help FTSE rack up third week of gains "Deal news added weight to the rally as Rio Tinto, up 3.1 percent finally won control of Australian coal miner Riversdale Mining, after trying for months to sell the \$4 billion deal to key shareholders."	Reuters
[31]	4/8/2011	UPDATE 2-Rio Tinto gains control of Riversdale Mining "Global miner Rio Tinto won control over Riversdale Mining on Friday with a \$4 billion offer, allowing the global miner to now dictate development of Riversdale's prized coal mines in Mozambique. Rio Tinto finally passed the 50 percent mark after failing over the past three months to persuade Riversdale two key shareholders, India's Tata Steel and Brazil's CSN to sell their combined 47 percent stake."	Reuters ^a
[32]	4/8/2011	Miners Drive Europe's Gains "Miners advanced, helped by news that Rio Tinto had clinched a majority interest in long-pursued Riversdale Mining, boosting chances its takeover will be approved."	Wall Street Journal
[33]	4/9/2011	Rio to fast-track Riversdale assets "Rio was yesterday sitting on a little more than 51 per cent of Riversdale after four months of hard merger and acquisition slog. The bid, elegantly named Project Ralph by the merger team, looked to many as though it would not succeed when 27 per cent holder Tata Steel and 20 per cent holder CSN refused to sell into the deal."	The Australian

Notes and Sources:

This appendix summarizes news reports identified using several searches of Factiva. All searches specified that news reports be identified as "Publications" and excluded news reports identified as "Web News." The first search was for news reports with the keywords "Rio Tinto" and "Riversdale" published between March 28, 2011 and April 9, 2011 by one of the following 10 publications: The Australian, The New York Times, The Wall Street Journal, The Australian Financial Review, Reuters, the Herald-Sun, The Sydney Morning Herald, Business Spectator, MarketWatch, and The Financial Times, which yielded 151 news reports identified as "Publications" (two news reports were identified as "Web News" and were excluded). The second search was for news reports with the keywords "Rio Tinto" and "Riversdale" published by Dow Jones Newswires during the periods March 28-31, 2011 and April 4-8, 2011, excluding news reports that include the phrases "of the day," "morning briefing," "top stories," or "corporate calendar," which yielded 81 news reports identified as "Publications" (one news report was identified as "Web News" and was excluded). News reports that included a reaction to Rio Tinto's disclosures or analysis of Rio Tinto's chances to complete the takeover of Riversdale are included in this appendix. News reports in this appendix are limited to one report per source per disclosure.

Rio Tinto's disclosures are noted in italics with the news media's reactions to the disclosures below. The date and time noted for each disclosure are provided in U.S. Eastern Time.

See **Appendix C.1** for more detailed descriptions of each disclosure.

[a] These articles are included because they are cited in Dr. Metz's report.

Appendix C.3

Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 11, 2011

	Date	Contributor	Headline	Reactions
[1]	3/29/2011	MERRILL LYNCH	RIV offer unconditional, next goal 47% ... more M&A to come?	<p>"Rio has now inched higher to ~41% stake in Riversdale - 21% direct via Rio and 20% implied through acceptances. On 28 March RIO declared the offer unconditional...with one value-add caveat - the offer price will increase to \$16.50, if Rio's stake increases to >47%, by 6th April 2011. In our view lifting the 50% conditionality on the offer should help maintain the recent momentum in acceptances of ~5%p/w since mid-March. On this basis, we believe the 47% is achievable. The offer continues to provide accelerated payment terms of five business days"</p> <p>"Optimal scenario: CSN or Tata comes to the party"</p> <p>"With three interested parties, all with non-controlling stakes, we believe Riversdale will remain a listed vehicle"</p> <p>"In our view the RIV bid marks a return to the former "successful" Rio M&A model that thrived during the 1980's to early 2000's. RIV is a tier 1 asset and fits well with Rio's current M&A focus of 'single-digit billion dollar...tier 1 assets.' Logical/synergistic acquisitions include uranium in Namibia and sorting out copper equity in Mongolia."</p>
[2]	3/29/2011	JP MORGAN	Riversdale bid declared unconditional - ALERT	<p>"RIO announced today that it has waived the minimum acceptance condition to it's A\$16/share offer for Riversdale Mining. In addition, the higher offer price of A\$16.50/share will be now provided in the event that the company reaches 47% by 6 April 2011 (versus 50% by 28 March 2011 previously). Given RIO currently has acceptances for 41.04%, this means that an additional 5.96% is required to increase the offer price."</p> <p>"Earlier today, RIV indicated that Rio Tinto 'remains in discussions with one of Riversdale's major shareholders' and the company 'genuinely believes that an outcome of those discussions is likely to emerge during the course of this morning.'...No revelation regarding either CSN or Tata was made today, so the response from RIO to make the offer unconditional could suggest that either the discussions broke down, or have been delayed."</p> <p>"47% of Riversdale would mean RIO holds as much as Tata and CSN combined"</p>
[3]	3/29/2011	RBC CAPITAL MARKETS	Rio's \$16.00 Offer Goes Unconditional; Increased to \$16.50 if It Reaches 47%	<p>"Rio Tinto has declared its \$16.00 all-cash offer for Riversdale Mining unconditional, and it will increase the offer to \$16.50 if it reaches 47% by April 6, which remains the closing date of the offer. Earlier, Rio had advised that it was close to securing the interest of one of the major shareholders on Tuesday, but this appears not to have occurred. Rio's current interest stands at 41.04% of Riversdale. Lifting its interest to 47% would match the combined interest of Tata (27%) and CSN (20%) and would also enable it to creep to 50% after closing the offer. Tata and CSN have both reached the 3% creep limit in recent months... if Rio reached 47%, it would match the combined interests of Tata and CSN, ensuring it cannot be outvoted."</p> <p>"With Rio's balance sheet behind the projects, we could expect more rapid development and potentially larger scale, more efficient infrastructure solutions to be considered."</p> <p>"First production is scheduled for mid-2011. A delay in the construction schedule would impede cash flow and could result in the need for additional project funding. Longer-term, infrastructure remains a risk as an expanded rail line or alternative to carry coal ~600km to the coast is not yet available, and the existing port is insufficient to accommodate intended longer-term volumes. Energy prices and environmental considerations could potentially influence operational costs."</p> <p>"About 13Bt of resource has been delineated in Mozambique so far with the potential to transform Riversdale into a top 10, coking coal exporter... Riversdale aims to produce at least 6Mtpa hard coking and 6Mtpa thermal coal."</p>

Appendix C.3

Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 11, 2011

	Date	Contributor	Headline	Reactions
[4]	3/30/2011	MERRILL LYNCH	RIV bid: +ve developments by S&P (index) & CSN (s'holder)	<p>"On the basis of latest developments, we believe the Riversdale transactions looks to be building towards a successful finish, over the next week or so, with acceptances likely to reach 47%, and quite possible ease thru that target & end closer to the aspirational target of 50.1%."</p> <p>"S&P announced late on the 30 April that it will remove RIV from the S&P 200 Index, due to free float considerations (<30%), after close of business on 6 April. We expect that index related selling could deliver Rio around 4-5% of additional acceptances, taking Rio's holding in RIV to close to 47%. Not surprisingly, Rio set 47% as a trigger to reward shareholders with a 50¢ cash "sweetener", taking the total consideration to \$16.50/share."</p>
[5]	4/1/2011	MERRILL LYNCH	Energy CEO briefing: Expect more Uranium investment	<p>"Rio believes Mozambique assets to be tier 1 inclusion to their portfolio & is critical to energy growth plans."</p> <p>"Mozambique's top quality asset deal near completion"</p> <p>"Coal quality is remarkable, but comes with a higher waste ratio (which may mean higher mining costs). Ritchie believes their involvement can "accelerate" production from Benga and Zambeze. The #1 priority will be to produce quickly – in a friendly price environment. Whether Riversdale will remain listed requires discussions with other shareholders once the deal finalises."</p>
[6]	4/4/2011	CITIGROUP INC	BHP Billiton and Rio Tinto: Iron Ore Upgrades, but Capex and Costs Also Rising	<p>"Riversdale — RIO now has 43% of Riversdale and will pay A\$16.50/share if it can reach 47% by Wednesday 6 April. If RIO cannot reach 47% then the bid price will be A\$16/share – this would likely have only a nominal impact of ~US\$60m on the implied price paid, given that Tata Steel and CSN together own 47% of RIV and to date have appeared unwilling to sell into the bid."</p>
[7]	4/6/2011	MERRILL LYNCH	Riversdale bid: edges close to 50.1% and 14 days still to go...	<p>"What a week – in just 5 trading days Rio has inched higher on the RIV register from ~41% to 49.49% - quite a turnaround from early March when the bid was looking challenging with minimal acceptances locked in. It now appears increasingly likely that Rio will secure control of RIV despite the share free float (based on yesterdays close) of around 3% - quite an extraordinary outcome."</p> <p>"When acceptances passed 47% yesterday, the final bid condition was cleared, thereby triggering an automatic extension to the bid of 14 days and securing bid terms at the higher rate of \$16.50/sh. With another 10 trading days to buy stock in the market we expect that Rio could surpass the 50% threshold and secure control of the company with a 50.1% stake."</p> <p>"[W]e expect that RIV may remain listed for a short period, but we ultimately see the company heading private as/when the three shareholders reach a commercial solution."</p> <p>"If successful, completion of this deal would mark the first successful M&A move by Rio Tinto since the ill-fated Alcan deal in 2007 (US\$38b). In our view, this could mark a return to the former "successful" Rio M&A model that thrived during the 1980's to early 2000's. RIV is a tier 1 asset and fits well with Rio's current M&A focus of "single-digit billion dollar...tier 1 assets."</p>

Appendix C.3

Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures Regarding its Attempted Takeover of Riversdale

March 28, 2011 through April 11, 2011

	Date	Contributor	Headline	Reactions
[8]	4/8/2011	DOLMEN SECURITIES	Dolmen Daily	<p>"Rio Tinto: Acquires majority stake in Riversdale Mining"</p> <p>"Rio Tinto has this morning announced that it has acquired a majority stake in Riversdale Mining a company which controls coking coal mines in Africa. Rio had been steadily increasing its position in Riversdale but today marks the point where its interest rose above 50%. In an RNS released to the exchange Rio stated that it may increase its stake further while also noting that it has until the 20th of April to make a takeover offer. Riversdale's assets are located in Mozambique and the increased stake gives Rio Tinto control over the Benga JV with Tata which is a mining concession that allows export of coal from the area by year end. The majority stake also gives Rio Tinto access to the Zambeze exploration project. We view today's news of Rio Tinto's majority stake as a positive for the diversified miner as the coking coal assets which Rio has gained control of are long life, high grade and will complement its existing iron ore assets. Also the manner in which Rio gained control of Riversdale is an added bonus as it increased its stake without dissent from other large shareholders. In general the deal is a positive for the entire sector as it underlines another large commitment by the diversified miners to secure new assets that will support rising demand."</p>

Notes and Sources:

This appendix summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group, were published between March 28, 2011 and April 11, 2011, and have one of the following keywords: Riversdale, Mozambique, Tete, Moatize, RTCM, Zambeze, Zambezi, barging, or barge. To compile the reports summarized in this appendix, I followed the following steps:

- (i) From the list of analysts' reports produced in discovery, provided by Rio Tinto, or identified in my searches of the Capital IQ and Thomson ONE platforms, I removed duplicate reports where duplicates were defined as (a) a report with the same Contributor, Date, Headline, and Number of Pages as another report, (b) a report with the same Contributor, Date, and number of Pages as another report, but no Headline, or (c) a report within one day of another report with the same Contributor, Headline, and Number of Pages. If duplicate reports had different prices, I removed the more expensive report. If duplicate reports had different Dates (per criteria (b) above), I removed the report with the earlier Date.
- (ii) I excluded reports from News Bites Pty Limited, Marketline, Riskmetrics, Thomson Streetevents, Eva Dimensions, Wright Investors Service, Globaldata, and Sadif-Investment Analytics SA because I found that they either were not analysts' reports or did not provide analysts' commentary on company events.
- (iii) Of the remaining reports, I selected one report per contributor per day. To do so, I first identified additional duplicates by removing "Ltd," "plc," "Plc," "Limited," "Rio.L," or "Rio.AX" from the headline. For each Date and Contributor, if there was a report produced in discovery or provided by Rio Tinto available, I selected that report. If there was a longer report also available for that Contributor and Date, that report was also selected, resulting in two reports for that Date. If no reports were produced in discovery or provided by Rio Tinto for a Date and Contributor combination, I selected the report with the greatest Number of Pages. If there were multiple reports with the same Number of Pages, I selected the least expensive report.

From the list of 11 reports produced by following this process, I identified 8 reports that discuss Rio Tinto's acquisition of RTCM. Note that I did not identify any reports published between April 9, 2011 and April 11, 2011 that discuss Rio Tinto's acquisition of RTCM.

Appendix C.4

Summary of Companies in the SPM Index (Used by Metz), the HSBC Global Mining Index, and the Equal Weighted Peer Index

Name	Ticker	SIC Major Group	Business Description	Total Revenue (in \$ Millions)		Market Cap (in \$ Millions)		Constituent of Index		
				FY2011	FY2012	8-Apr-11	17-Jan-13	SPMM	HSBC Ten Largest Companies	Equal Weighted Peer Index
	[A]	[B]	[C]	[D]		[E]		[F]	[G]	[H]
Rio Tinto Ltd/Rio Tinto Plc	RIO	10 - Metal Mining	"[Rio Tinto is] a global leader in the aluminum industry. [...] Copper group is uniquely positioned to supply growing global demand. In 2011, we produced 520 thousand tonnes of mined copper (Rio Tinto share), making us the world's seventh largest supplier. [...] Rio Tinto Diamonds is one of the world's leading diamond producers, active in mining, sales and marketing. Rio Tinto Minerals is a world leader in borates, with mines, processing plants, commercial and research facilities. Rio Tinto Iron & Titanium is an industry leader in high grade titanium dioxide.[...] We are a leading supplier of thermal and coking coal to the Asian seaborne market and are one of the world's largest uranium producers, serving electric power utilities worldwide. [...] We are the second-largest producer supplying the global seaborne iron ore trade. After a decade of dramatic expansion in Australia, and more recent growth in both Australia and Canada, we are well positioned to benefit from the continuing demand surge in China and other Asian markets."	\$60,537	\$50,967	\$144,066	\$101,253		x	
A.T. Massey Coal Company, Inc. ^a	MEE	12 - Coal Mining	"[A.T. Massey Coal Company, Inc. is] one of the largest coal producers in the United States and we are the largest coal company in Central Appalachia. [...] We produce, process and sell bituminous coal of various steam and metallurgical grades, primarily of a low sulfur content."	N/A	N/A	\$6,896	N/A	x		
AK Steel Holding Corp.	AKS	33 - Primary Metal Industries	"[AK Steel] is an integrated producer of flat-rolled carbon, stainless and electrical steels and tubular products through its wholly-owned subsidiary, AK Steel Corporation."	\$6,468	\$5,934	\$1,740	\$631	x		
Alcoa Corp.	AA	33 - Primary Metal Industries	"Alcoa is the world leader in the production and management of primary aluminum, fabricated aluminum, and alumina combined, through its active and growing participation in all major aspects of the industry: technology, mining, refining, smelting, fabricating, and recycling."	\$24,951	\$23,700	\$19,043	\$9,541	x		x
Allegheny Technologies Inc.	ATI	33 - Primary Metal Industries	"Allegheny Technologies is one of the largest and most diversified specialty metals producers in the world." "Our specialty metals are produced in a wide range of alloys and product forms and are selected for use in applications that demand metals having exceptional hardness, toughness, strength, resistance to heat, corrosion or abrasion, or a combination of these characteristics."	\$5,183	\$5,032	\$6,278	\$3,227	x		
Allied Nevada Gold Corp.	ANVGQ	10 - Metal Mining	"Allied Nevada Gold Corp. is a U.S. based gold producer focused on mining, development, and exploration properties in the state of Nevada. [...]The Company's operating mine, the Hycroft Mine, is a past producing open pit gold and silver heap leach operation located 50 miles west of Winnemucca, Nevada."	\$152	\$215	\$3,605	\$2,404	x		

Appendix C.4

Summary of Companies in the SPM Index (Used by Metz), the HSBC Global Mining Index, and the Equal Weighted Peer Index

Name	Ticker	SIC Major Group	Business Description	Total Revenue (in \$ Millions)		Market Cap (in \$ Millions)		Constituent of Index		
				FY2011	FY2012	8-Apr-11	17-Jan-13	SPMM	HSBC Ten Largest Companies	Equal Weighted Peer Index
	[A]	[B]	[C]	[D]		[E]		[F]	[G]	[H]
Alpha Natural Resources Inc.	ANRZQ	12 - Coal Mining	"[Alpha Natural Resources Inc. and its consolidated subsidiaries] are one of America's premier coal suppliers, [...] We are the nation's leading supplier and exporter of metallurgical coal for use in the steel-making process and a major supplier of thermal coal to electric utilities and manufacturing industries across the country."	\$7,108	\$6,975	\$6,880	\$2,057	x		
AMCOL International Corp.	ACO	14 - Mining and Quarrying of Nonmetallic Minerals, Except Fuels	"[AMCOL International Corporation and its subsidiaries] operate in five segments: minerals and materials, environmental, oilfield services, transportation and corporate. Our minerals and materials segment mines, processes and distributes minerals and products for use in various industrial and consumer markets."	\$944	\$986	\$1,123	\$1,065	x		
Anglo American Plc	NGLOY	10 - Metal Mining	"[Anglo American Plc is] in the top five of the world's iron ore producers. [...] the second biggest Australian metallurgical coal producer and the No. 3 global exporter of metallurgical coal, [...] have a one-third shareholding in Cerrejón, Colombia's biggest thermal coal exporter. [...] [have] interests in six operations in Chile."	\$30,580	\$28,761	\$65,556	\$38,539		x	x
Arch Coal Inc.	ACIQ	12 - Coal Mining	"[Arch Coal Inc. and its subsidiaries] are one of the world's largest coal producers."	\$4,286	\$4,159	\$5,610	\$1,507	x		
Barrick Gold Corp.	GOLD	10 - Metal Mining	"Barrick is engaged in the production and sale of gold, as well as related activities such as exploration and mine development. Barrick also produces significant amounts of copper, principally from the Zaldívar and Lumwana mines and holds other interests, including a nickel development project located in Africa and a copper-gold project in Pakistan. The Company also produces oil and gas through its Barrick Energy business unit in Canada."	\$14,236	\$14,547	\$54,307	\$34,115		x	x
BHP Billiton Ltd/BHP Billiton Plc	BBL BHP	10 - Metal Mining	"[BHP Billiton Ltd and BHP Billiton Plc] are among the world's top producers of major commodities, including aluminum, energy coal, metallurgical coal, copper, manganese, iron ore, uranium, nickel, silver and titanium minerals, and have substantial interests in oil and gas."	\$71,739	\$72,226	\$245,257	\$180,988		x	x
Carpenter Technology Corp.	CRS	33 - Primary Metal Industries	"Carpenter Technology Corporation, incorporated in 1904, is engaged in the manufacturing, fabrication and distribution of specialty metals."	\$1,675	\$2,029	\$1,847	\$2,712	x		
Century Aluminum Co.	CENX	33 - Primary Metal Industries	"[Century Aluminum Co and its subsidiaries] produce primary aluminum."	\$1,356	\$1,272	\$1,858	\$792	x		
Cliffs Natural Resources Inc.	CLF	10 - Metal Mining	"[Cliffs Natural Resources Inc. is] an international mining and natural resources company." "[Cliffs Natural Resources Inc. is] a major global iron ore producer and a significant producer of high- and low-volatile metallurgical coal."	\$6,564	\$5,873	\$13,388	\$5,228	x		
Cloud Peak Energy Inc.	CLDPQ	12 - Coal Mining	"[Cloud Peak Energy Inc.] is one of the largest producers of coal in the U.S. and in the PRB."	\$1,554	\$1,517	\$1,324	\$1,125	x		

Appendix C.4

Summary of Companies in the SPMI Index (Used by Metz), the HSBC Global Mining Index, and the Equal Weighted Peer Index

Name	Ticker	SIC Major Group	Business Description	Total Revenue (in \$ Millions)		Market Cap (in \$ Millions)		Constituent of Index		
				FY2011	FY2012	8-Apr-11	17-Jan-13	SPMM	HSBC Ten Largest Companies	Equal Weighted Peer Index
	[A]	[B]	[C]	[D]		[E]		[F]	[G]	[H]
Coeur d'Alene Mines Corp.	CDE	10 - Metal Mining	"Coeur d'Alene Mines Corporation is a large primary silver producer with growing gold production."	\$1,021	\$895	\$3,284	\$2,172	x		
Commercial Metals Co.	CMC	50 - Wholesale Trade - Durable Goods	"[Commercial Metals Co.] recycle[s], manufacture[s], fabricate[s] and distribute[s] steel and metal products and related materials and services through a network of locations throughout the United States and internationally."	\$7,863	\$7,828	\$1,960	\$1,834	x		
Compass Minerals International Inc.	CMP	14 - Mining and Quarrying of Nonmetallic Minerals,	"Compass Minerals is a leading producer of minerals, including salt, sulfate of potash specialty fertilizer ("SOP") and magnesium chloride."	\$1,106	\$942	\$3,130	\$2,402	x		
Consol Energy Inc.	CNX	12 - Coal Mining	"C[onsol] Energy safely and responsibly produces coal and natural gas for global energy and raw material market."	\$6,117	\$5,430	\$11,882	\$6,968	x		
Freeport McMoRan Copper & Gold Inc.	FCX	10 - Metal Mining	"[Freeport-McMoRan Copper & Gold Inc. (FCX) and its consolidated subsidiaries] are a leading international mining company. We are one of the world's largest copper, gold and molybdenum mining companies in terms of reserves and production."	\$20,880	\$18,010	\$54,168	\$32,353	x	x	x
General Moly Inc.	GMO	10 - Metal Mining	"[General Moly, Inc. and its consolidated subsidiary Eureka Moly, LLC] are a development stage company in the business of the exploration, development and mining of properties primarily containing molybdenum."	\$0	\$0	\$511	\$370	x		
Globe Specialty Metals, Inc.	GSM	33 - Primary Metal Industries	"Globe Specialty Metals, Inc. and subsidiary companies (GSM, the Company, we, us, or our) is one of the world's largest and most efficient producers of silicon metal and silicon-based alloys."	\$642	\$706	\$1,706	\$1,120	x		
Goldcorp Inc.	GG	10 - Metal Mining	"Goldcorp is engaged in the acquisition, exploration, development and operation of gold properties." "Goldcorp is a leading global gold producer engaged in the acquisition, exploration, development and operation of gold properties in Canada, the United States, Mexico and Central and South America."	\$5,362	\$5,435	\$43,466	\$30,219		x	
Haynes International Inc.	HAYN	33 - Primary Metal Industries	"Haynes International, Inc. is one of the world's largest producers of high performance nickel- and cobalt-based alloys in sheet, coil and plate forms."	\$543	\$580	\$624	\$616	x		
Hecla Mining Co.	HL	10 - Metal Mining	"[Hecla Mining Company and its subsidiaries] discover, acquire, develop, produce, and market silver, gold, lead and zinc."	\$478	\$321	\$2,724	\$1,624	x		
Horsehead Holding Corp.	ZINCQ	33 - Primary Metal Industries	"Horsehead Holding Corp. is the parent company of Horsehead Corporation, a leading U.S. producer of specialty zinc and zinc-based products and a leading recycler of electric arc furnace dust."	\$451	\$436	\$730	\$432	x		

Appendix C.4

Summary of Companies in the SPMM Index (Used by Metz), the HSBC Global Mining Index, and the Equal Weighted Peer Index

Name	Ticker	SIC Major Group	Business Description	Total Revenue (in \$ Millions)		Market Cap (in \$ Millions)		Constituent of Index		
				FY2011	FY2012	8-Apr-11	17-Jan-13	SPMM	HSBC Ten Largest Companies	Equal Weighted Peer Index
	[A]	[B]	[C]	[D]		[E]		[F]	[G]	[H]
International Coal Group Inc. ^b	ICO	12 - Coal Mining	"[International Coal Group Inc. is] a leading producer of coal in Northern and Central Appalachia with a broad range of mid- to high-Btu, low- to medium sulfur steam and metallurgical coal."	N/A	N/A	\$2,238	N/A	x		
James River Coal Co.	JRCCQ	12 - Coal Mining	"[James River and its subsidiaries] mine, process and sell thermal and metallurgical coal through eight active mining complexes located throughout eastern Kentucky, southern West Virginia and southern Indiana."	\$1,178	\$1,100	\$804	\$103	x		
Kaiser Aluminum Corp.	KALU	33 - Primary Metal Industries	"Kaiser Aluminum Corporation's primary line of business is the production of semi-fabricated specialty aluminum products."	\$1,301	\$1,360	\$949	\$1,217	x		
Materion Corp.	MTRN	33 - Primary Metal Industries	"Materion Corporation, through its wholly owned subsidiaries, is an integrated producer of high performance advanced engineered materials used in a variety of electrical, electronic, thermal and structural applications."	\$1,527	\$1,273	\$826	\$569	x		
McEwen Mining Inc.	MUX	67 - Holding and Other Investment Offices	"[McEwen Mining Inc. is] engaged in the exploration for and production of precious metal in the US, Mexico and Argentina."	\$0	\$27	\$1,312	\$1,077	x		
Molycorp Inc.	MCPIQ	33 - Primary Metal Industries	"[Molycorp, LLC and its consolidated subsidiaries] are the largest rare earth oxide, or REO, producer in the Western hemisphere and own one of the world's largest, most fully developed rare earth projects outside of China."	\$397	\$529	\$5,530	\$1,214	x		
Newmont Corp.	NEM	10 - Metal Mining	"Newmont Mining Corporation is primarily a gold producer with significant operations and/or assets in the United States, Australia, Peru, Indonesia, Ghana, New Zealand and Mexico."	\$10,358	\$9,868	\$28,604	\$22,062	x		x
Nucor Corp.	NUE	33 - Primary Metal Industries	"Nucor Corporation and its affiliates manufacture steel and steel products. The Company also produces direct reduced iron ("DRI") for use in the Company's steel mills."	\$20,024	\$19,429	\$14,671	\$14,815	x		
Patriot Coal Corp.	PCXCQ	12 - Coal Mining	"[Patriot Coal Corporation and its subsidiaries] principal business is the mining and preparation of thermal coal, also known as steam coal, and metallurgical coal."	\$2,403	\$1,923	\$2,394	\$8	x		
Peabody Energy Corp.	BTUUQ	12 - Coal Mining	"Peabody Energy Corporation is the world's largest private-sector coal company. [...] In addition to our mining operations, we market, broker and trade coal through our Trading and Brokerage segment."	\$7,896	\$8,078	\$18,428	\$6,809	x		
Reliance Steel & Aluminum Co.	RS	50 - Wholesale Trade - Durable Goods	"[Reliance Steel & Aluminum Co. and all of its subsidiaries] provide metals processing services and distribute a full line of more than 100,000 metal products, including alloy, aluminum, brass, copper, carbon steel, stainless steel, titanium and specialty steel products."	\$8,135	\$8,442	\$4,286	\$4,795	x		
Royal Gold Inc.	RGLD	67 - Holding and Other Investment Offices	"Royal Gold, Inc., together with its subsidiaries, is engaged in the business of acquiring and managing precious metals royalties and similar interests."	\$216	\$263	\$2,989	\$5,194	x		

Appendix C.4

Summary of Companies in the SPM Index (Used by Metz), the HSBC Global Mining Index, and the Equal Weighted Peer Index

Name	Ticker	SIC Major Group	Business Description	Total Revenue (in \$ Millions)		Market Cap (in \$ Millions)		Constituent of Index		
				FY2011	FY2012	8-Apr-11	17-Jan-13	SPMM	HSBC Ten Largest Companies	Equal Weighted Peer Index
	[A]	[B]	[C]	[D]		[E]		[F]	[G]	[H]
RTI International Metals Inc.	RTI	34 - Fabricated Metal Prdcts, Except Machinery & Transport	"[RTI] is a leading producer and global supplier of advanced titanium mill products and a manufacturer of fabricated advanced titanium and specialty metal components."	\$530	\$739	\$924	\$874	x		
Schnitzer Steel Industries Inc.	SCHN	50 - Wholesale Trade - Durable Goods	"Schnitzer Steel Industries, Inc., an Oregon corporation, is one of the nation's largest recyclers of ferrous and nonferrous scrap metal, a leading recycler of used and salvaged vehicles and a manufacturer of finished steel products."	\$3,459	\$3,341	\$1,771	\$792	x		
Steel Dynamics Inc.	STLD	33 - Primary Metal Industries	"[Steel Dynamics Inc. is] one of the largest steel producers and one of the largest metals recyclers in the United States based on a current estimated annual steelmaking capability of 6.4 million tons and actual recycling volumes."	\$7,998	\$7,290	\$4,082	\$3,332	x		
Stillwater Mining Co.	SWC	10 - Metal Mining	"Stillwater Mining Company (the Company) is engaged in the development, extraction, processing, smelting, refining and marketing of palladium, platinum and associated metals (platinum group metals or PGMs) from a geological formation in south-central Montana known as the J-M Reef and from the recycling of spent catalytic converters."	\$906	\$800	\$2,403	\$1,642	x		
Titanium Metals Corp ^c	TIE	33 - Primary Metal Industries	"Titanium Metals Corporation is one of the world's leading producers of titanium melted and mill products."	\$1,045	N/A	\$3,315	N/A	x		
United States Steel Corp.	X	33 - Primary Metal Industries	"U. S. Steel is an integrated steel producer of flat-rolled and tubular products with major production operations in North America and Europe."	\$19,884	\$19,328	\$7,590	\$3,564	x		
USEC Inc.	LEU	28 - Chemicals and Allied Products	"USEC, a global energy company, is a leading supplier of low enriched uranium ("LEU") for commercial nuclear power plants."	\$1,672	\$1,918	\$537	\$80	x		
Vale S.A.	VALE	10 - Metal Mining	"[Vale and its consolidated subsidiaries] are the second-largest metals and mining company in the world and the largest in the Americas, based on market capitalization. We are the world's largest producer of iron ore and iron ore pellets and the world's second-largest producer of nickel."	\$60,946	\$47,694	\$110,501	\$65,135		x	x
Walter Energy Inc.	WLTGQ	12 - Coal Mining	"[Walter Energy Inc. is] a leading producer and exporter of metallurgical coal for the global steel industry and also produce thermal coal and industrial coal, anthracite, metallurgical coke, coal bed methane gas ("natural gas") and other related products."	\$2,571	\$2,400	\$8,784	\$2,326	x		
Worthington Industries Inc.	WOR	33 - Primary Metal Industries	"Worthington is primarily a diversified metals processing company, focused on value-added steel processing and manufactured metal products."	\$2,443	\$2,535	\$1,541	\$1,970	x		
Xstrata Plc	XSRAY	N/A	"[Xstrata is] the world's fourth largest copper producer and a leading recycler of copper and other materials from electronic goods. We are the world's largest exporter of thermal coal and a significant producer of premium quality hard-coking coal and semi-soft coal. We are the world's fourth largest nickel producer and one of the largest producers of cobalt."	\$33,877	\$31,618	\$72,190	\$53,748		x	x

Appendix C.4

Summary of Companies in the SPM Index (Used by Metz), the HSBC Global Mining Index, and the Equal Weighted Peer Index

Name	Ticker	SIC Major Group	Business Description	Total Revenue (in \$ Millions)		Market Cap (in \$ Millions)		Constituent of Index		
				FY2011	FY2012	8-Apr-11	17-Jan-13	SPMM	HSBC Ten Largest Companies	Equal Weighted Peer Index
	[A]	[B]	[C]	[D]		[E]		[F]	[G]	[H]

Notes and Sources:

[A] ADR tickers are used for non-US based companies.

[B] SIC Major Group is the first two digits of the company's SIC code. SIC codes are determined using the COMPUSTAT database as of 2011. If the information is not available in the COMPUSTAT database, the SIC code is obtained from the SEC's Edgar website. Xstrata's SIC code is not available.

[C] Business Descriptions are taken from FY2011 Annual Reports or Form 10-Ks. Business descriptions for A.T. Massey and International Coal are taken from their FY2010 Form 10-Ks.

[D] Total Revenue is taken from FY2011 and FY2012 Annual Reports or Form 10-Ks.

[E] Market cap data is obtained from Bloomberg. For non-US companies, market cap is calculated as number of shares outstanding of the stocks in the home country multiplied by the converted ADR price or US-listed stock price if applicable. I calculate the converted ADR price using the conversion ratio between the ADR and the common stock provided by Bloomberg where the conversion ratio describes the number of common shares of the foreign stock per ADR. For Rio Tinto, the number of shares outstanding is equal to the sum of shares outstanding for both Rio Tinto Ltd and Rio Tinto Plc. For BHP Billiton, the number of shares outstanding is equal to the sum of shares outstanding for both BHP Billiton Ltd and BHP Billiton Plc. For Anglo American, ADR prices are obtained from Eikon; For Vale SA, the number of shares outstanding does not include preferred shares outstanding.

[F] S&P Metals and Mining Index constituents as of April 8, 2011 per Bloomberg. There were 43 unique constituents as of this date.

[G] HSBC Largest Ten Companies include the largest ten companies in the HSBC Global Mining Index as of April 2010 and July 2013. Glencore Xstrata is excluded because Glencore merged with Xstrata in May 2013 (after January 17, 2013).

[H] Equal Weighted Peer Index includes the following companies identified by Rio Tinto as comparator firms on page 98 of its 2011 Annual Report: Alcoa, Anglo American, Barrick Gold, BHP Billiton, Freeport-McMoRan, Newmont Mining, Vale do Rio Dolce and Xstrata.

[a] In June 2011, A.T. Massey was acquired by Alpha Natural Resources. Therefore, FY 2011 and FY 2012 revenue, and January 17, 2013 market cap are not available.

[b] In June 2011, International Coal was acquired by Arch Coal. Therefore, FY 2011 and FY 2012 revenue, and January 17, 2013 market cap are not available.

[c] In November 2012, Titanium Metals Corp merged with Precision Castparts Corp and Elit Acquisition Sub Corp. Therefore, FY2012 revenue and January 17, 2013 market cap are not available.

Bloomberg. Thomson Reuters. COMPUSTAT. HSBC Global Mining Index Fact Sheet, April 30, 2010; HSBC Global Mining Index Fact Sheet, July 31, 2013. United States Department of Labor, "SIC Division Structure," available at https://www.osha.gov/pls/imis/sic_manual.html; Edgar Company Filings, available at <https://www.sec.gov/edgar/searchedgar/companysearch.html>.

Appendix C.5
Timeline of Rio Tinto's Disclosures Related to RTCM
August 4, 2011 through January 15, 2013

Date	Disclosure	Source
[1] 8/4/2011	<p>"Just this Monday we achieved a landmark when we completed the compulsory acquisition of the remaining Riverdale shares and we've reached 100% ownership. Key Rio Tinto management have been appointed and already are on site in Mozambique."</p> <p>"At this stage we'd expect first production [from Benga] at the end of the year, ramping up to full production from Phase 1 of 1.6m tonnes per year of coking coal and 800,000 tonnes per year thermal coal by the end of 2012."</p>	HY 2011 Earnings Presentation Transcript
	<p>"We've got to look at the right infrastructure solution. I suspect that infrastructure solution will have a component of public-private partnership. Again, that seems to be something that's supported by the Mozambique government. So they'll be engaged with other stakeholders as we come to that final infrastructure solution, but, again, the resource is there and the resource is worth the effort to take time and get it going, while we focus initially on the ramp-up of Benga."</p> <p>"Initial infrastructure is going to be restricted to modernization of what's on the ground today, getting existing rail configured, the existing port configured, and in looking for progressive expansions of Benga after that first production. And then again, as I said with Simandou, for Zambeze in particular, making sure that we get the long-term infrastructure solution properly engineered, properly optimized and properly sited and constructed because, again, that's something that will be benefiting Rio Tinto for literally decades to come."</p>	
[2] 9/20/2011	<p>"Rio Tinto Coal Mozambique earned Tier 1 resources, which are long-life, will be cost-competitive, and with substantial expansion options. We plan to grow these assets into an export level of about 25 million tonnes per annum coking coal by 2020. We see this region providing a development opportunity that will achieve long-term and sustainable growth over a 50-year-plus time-frame."</p>	September 20, 2011 Investor Seminar Transcript
	<p>"The Benga Stage I project is on track with its pre-strip mining ahead of plan. The coal handling preparation plant construction is well advanced, and the first coal logistics solution is in place with the rehabilitation of the 570 kilometer-long center railway line to the Port of Beira."</p> <p>"We've also secured up to 2 million tonnes per year of Stage I rail capacity. We've started to integrate our world-class operating and technical capabilities into these operations, including health, safety, environment, and community standards. We are actively engaged with the government and have already trained over 1,100 local employees."</p> <p>"All major environmental, social, mining and power approvals have been received [for Benga]. First production is expected at the end of this year, when we will commission the new coal plant. First sales will be shipped in early 2012. In the first full year of production, we expect to export 1 million tonnes of hard coking coal, using the center railway line to transport it to Beira; and about 0.5 million tonnes of thermal coal to be trucked for domestic use."</p>	

Appendix C.5
Timeline of Rio Tinto's Disclosures Related to RTCM
August 4, 2011 through January 15, 2013

	Date	Disclosure	Source
		(cont.) "Stage II coal is slated for production in 2015, and will require additional coal handling and preparation plant capacity as production increases. By this stage, we expect total production from Benga to have reached 6 million tonnes per annum hard coking coal, and about 4 million tonnes per annum of thermal coal. Stage II will need more power, so we're planning a Monmouth power plant, which may also supply power for the Zambeze project and subsequent mine developments."	
[3]	9/20/2011	"The Zambeze coal project is 100% owned by Rio Tinto. An exploration license has been granted for this project, and we've submitted our mining concession application to the government. There are numerous project studies well underway, along with continued exploration drilling on the lease. An environmental and social impact assessment is being conducted, and current plans are that production would commence in 2014, with first coal delivered early in 2015." "[Zambeze's] full potential remains under investigation. However, previous studies have indicated that the potential for a large, or larger, operation than the Benga project being possible. Once Zambeze has ramped up to peak production, we are expecting annual production of more than 10 million tonnes of hard coking coal and up to 6 million tonnes of thermal coal."	September 20, 2011 Investor Seminar Transcript
		(cont.) "Logistics will be the key enabler for the project pipeline. We will need to upgrade existing capacity, implement greenfield port and rail solutions, and we are investigating barging capacity. Our focus is to time the delivery of integrated mining projects to coincide with the developments on the coal chain. It's about matching the best value projects to deliver the most valuable tonnes of coal in what is currently a very constrained infrastructure environment. Each of our projects will be able to deliver a lot more coal than the current logistics chain can handle."	
[4]	9/20/2011	"As this project pipeline shows, there are a number of steps to take in the coal chain pathway. The challenge lies in achieving an effective approach with multiple stakeholders, including government and investors, to enable coal chain capacity limitations to be overcome, and to enable the ramp-up of exports. Today, the current infrastructure capacity is approximately 5 million tonnes per annum, if the mines under development in the region have the potential to export more than 30 million tonnes per year within the next five to 10 years. In the longer-term, export potential from the region is more than 100 million tonnes a year."	September 20, 2011 Investor Seminar Transcript

Appendix C.5
Timeline of Rio Tinto's Disclosures Related to RTCM
August 4, 2011 through January 15, 2013

	Date	Disclosure	Source
[5]	9/20/2011	<p>(cont.)</p> <p>"We see the growth path starting with our first coal at Benga at year-end. First coal transported by the center railway line to Beira, using a shared operating network which is operated by state-owned rail and port authorities. [A new rolling] stock is arriving, and we've secured track access and port services for Benga Stage I production. For Stage II and beyond, we're continuing to work on putting commercial arrangements in place. We're conducting a pre-feasibility study into the use of barging to transport the coal. This would be barged down the Zambeze River and transloaded to an ocean-going vessel offshore. We would expect to start small at around 3 million tonnes per annum in 2015, growing [to] over 20 million tonnes over time."</p> <p>"By 2016, we aim to have completed the feasibility work on one or more of the infrastructure options necessary to increase capacity. This may include upgrading the Sena/Beira Corridor, and developing and upgrading the Nakala line. By 2018, the greenfield coal chain with a capacity of 25 million tonnes per annum should be constructed, which in the future, could grow to more than 100 million tonnes. We expect that this will be shared access and that new infrastructure will need to be built on a newer line, which will provide more direct route from Tete to the coast. A pre-feasibility study, including a detailed environment and social impact assessment, is already underway."</p>	September 20, 2011 Investor Seminar Transcript
[6]	9/20/2011	<p>(cont.)</p> <p>"Mozambique has obvious geographic benefits with its close proximity to the areas of growing steel and energy demand. The key markets for our coking coal product will be Brazil, India, China, and Europe. Thermal coal exports will be limited at first, with obvious priority for infrastructure use being given to coking coal until larger solutions are in place. We have a sales contract in place for the domestic market for mine gate capacity of between 300,000 tonnes and 500,000 tonnes of thermal coal at present, for which we are receiving seaborne rights. And we are also investigating other potential domestic contracts."</p> <p>"Mozambique represents the only new source of seaborne hard coking coal with the potential to deliver large volumes of product to the market. I'm excited to be at the forefront of this investment in this exciting new coal region."</p>	September 20, 2011 Investor Seminar Transcript
[7]	9/20/2011	<p>(cont.)</p> <p>"[T]he starting point for Mozambique in infrastructure is that sort of no one solution is necessarily the correct answer. The potential of the basin and the volumes that can be put into the marketplace really require people to be exploring all different sorts of infrastructure approaches. It is very clear that -- I think that the preference for the government is for sort of a private company and government partnership going forward, possibly with government ownership, but we are still exploring that. I think the role that infrastructure plays in the successful development of Mozambique is really only just starting to come to the fore in terms of the considerations that the government is making."</p>	September 20, 2011 Investor Seminar Transcript

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Timeline of Rio Tinto's Disclosures Related to RTCM
August 4, 2011 through January 15, 2013

Date	Disclosure	Source
[8]	<p>[Zambeze Project] First production [is set for] 2015. By 2019 up to: 42Mtpa Run of Mine (ROM), 10Mtpa hard coking coal, 6Mtpa thermal coal. Mining concession application submitted to Mozambique Government. 20,000t bulk sample collected to further coal quality test work programme. Environmental and social impact assessment underway.</p> <p>Mozambique coal chain capacity growth path: First Coal: Late 2011/early 2012, 1Mtpa, Sena Rail Line/Port of Beira. Barging: 2015, 3Mtpa, growing to 20Mtpa+, river barging on Zambeze River, and transloaded to OGV off shore. Expand existing rail and port export corridors: 2016+, up to 40Mtpa across various corridors (Rio Tinto share to be negotiated). Greenfield Rail & Port: 2018+, 25Mtpa, growing to +100Mtpa (Riv share to be negotiated), new infrastructure built on new alignment, likely to be shared access.</p> <p>RTCM work schedule: Sena Bera Rail Line Upgrade: first train set for 2014 Q2; Zambeze Barging: first barge set for 2015 Q1; Greenfield Rail: first train set for post-2016; Benga Expansion Stage 2: first production set for mid-year 2015; Benga Power Plant: first production set for 2015 Q4; Zambeze Coal Project: first production set for 2015 Q1; Tete East Project: first production set for post-2016.</p>	Investor Seminar Slides: September 20, 2011
[9]	"[T]he first shipment of hard coking coal from the Beira port [is] expected to be around the end of the first quarter. Logistical constraints and upgrade work on the Sena railway line have contributed to revisions to the original timeline."	Media Release: <i>Fourth quarter 2011 operations review</i>
[10]	"Initial production from the Benga project is scheduled for the first half of 2012."	Full Year 2011 Earnings Presentation Transcript

Appendix C.5
Timeline of Rio Tinto's Disclosures Related to RTCM
August 4, 2011 through January 15, 2013

	Date	Disclosure	Source
		"Acquired as part of the Riversdale acquisition, Benga is expected to commence production around the end of the first quarter of 2012. Production from phase one is expected to ramp up to a rate of 1.6 mtpa of coking coal and 0.8 mtpa of thermal coal by the end of 2012."	
		"Rio Tinto's acquisition of Riversdale, renamed as Rio Tinto Coal Mozambique, was completed in August 2011. Its first operation, the Benga project, is due to start exports around the end of March."	
[11]	3/5/2012	"Whilst saleable production will initially be constrained by existing rail and port infrastructure, feasibility studies into infrastructure solutions and mine expansions at Benga and the adjacent Zambeze Project are continuing in 2012."	2011 Annual Report
		"The magnitude of the reserves and resources figures is consistent with our original estimates that were calculated during our due diligence studies."	
		Estimated resources for Benga and Zambeze were 613 Mt and 1,984 Mt in Rio Tinto's 2011 Annual Report. Estimated reserves for Benga were 137 Mt in Rio Tinto's 2011 Annual Report.	
[12]	4/17/2012	"First production from Rio Tinto Coal Mozambique's Benga mine was processed through the wash plant in February with final commissioning nearing completion. The product is expected to be railed to port at the end of April with the first shipment of hard coking coal from the Beira port expected around the middle of the second quarter."	Media Release: <i>First quarter 2012 operations review</i>
		"We are also continuing to work with the Government of Mozambique to secure the development of comprehensive infrastructure for efficient transport of coal from mine to port, which is a priority for the further development of the region."	
[13]	6/25/2012	"Rio Tinto has started exporting premium hard coking coal from its Benga Mine in the Moatize Basin in Mozambique. The first shipment of 34,000 tonnes left the Port of Beira today, bound for an Indian steel mill."	Media Release: <i>Rio Tinto makes first coal shipment from Mozambique</i>
		"We are also continuing to work with the Government of Mozambique to secure the development of comprehensive infrastructure for efficient transport of coal from mine to port, which is a priority for the further development of the region."	
[14]	8/8/2012	Rio Tinto announced shipment of the first cargo of premium hard coking coal from the Benga mine in Mozambique. "During the first half, Rio Tinto Coal Mozambique produced 123,000 tonnes of thermal coal (80,000 tonnes attributable) and 130,000 tonnes of hard coking coal (85,000 tonnes attributable) at Benga. Benga is expected to move to commercial production during the third quarter of 2012."	Media Release: <i>Rio Tinto announces first half underlying earnings of \$5.2 billion</i>

Appendix C.5
Timeline of Rio Tinto's Disclosures Related to RTCM
August 4, 2011 through January 15, 2013

	Date	Disclosure	Source
[15]	8/8/2012	<p>"[W]e're continuing exploration activity with promising results. Early indications are the exploration potential is far higher than anticipated just a year ago and beyond that of coking coal. Significant additional tonnes may be delivered. However, it is likely it will take longer to develop its infrastructure than previously planned due to the timing approvals and internal constraints on our capital. Discussions continue with the Mozambique government on a range of future infrastructure solutions."</p>	
		<p>"In 2012, we've seen quite a significant increase in exploration and evaluation costs, notably at some of our more advanced projects, including Simandou, Resolution, La Granja, and Mozambique Coal."</p> <p>"We do expect Benga mine to produce and rail more than 400,000 tonnes of coking coal this year."</p> <p>"It's been a good quality coking coal that we've been delivering so far this year. And I think as we've been saying we will want to be ramping that up. But to be realistic our own imposed constraints on capital spending will mean that that will probably be a slower rate of ramp up than we probably would have envisaged 12 months ago. But the potential for that ramp up exists. If anything I'd say the work we've been doing over the past 12 months indicates <u>we probably have more potential in total as we go forward. And again this is truly a world-class basin deposit.</u>^a So I am comfortable with the position of getting Benga going".</p> <p>"In terms of cost I think realistically as you are working at lower levels of production you are not going to get the full benefits of higher costs. But I would say that the Mozambique asset does benefit from a much lower stripping ratio than we see from traditional coking coal provinces around the world, so that will be a mitigating factor."</p>	<p>HY 2012 Earnings Presentation Transcript - London</p>
[16]	8/8/2012	<p>"We [and Vale] are both running our respective operations over the same existing rail line, which has been rehabilitated... We have a 31% or so allocation on that line, which we'd expect to get our 400,000 tonnes over the course of this year. We are looking at a Greenfield rail development. They themselves have their own independent rail development, which is underway as we speak. It's still in process. I think they're rehabbing certain parts of an old line themselves are part of that."</p> <p>"<u>I think that for me, if anything, Benga, Zambeze and the regional area that we've got in the Moatize, if anything, is more prospective than I would have said a year ago^a</u> as we look at the full range of opportunities, not just in coking coal, in other opportunities in the basin. And so for me, it is truly a unique opportunity to have, without a doubt, a first tier world-class basin of high quality, low vol, hard coking coal, which is, I believe, going to be harder and harder to come by in the years to come. So I think this is a truly valuable asset with a lot of optionality".</p>	<p>Half-Year 2012 Earnings Presentation - North American Q&A Transcript</p>

Appendix C.5
Timeline of Rio Tinto's Disclosures Related to RTCM
August 4, 2011 through January 15, 2013

	Date	Disclosure	Source
[17]	10/16/2012	<p>"During the quarter, production at the Benga mine in the Moatize Basin in Mozambique continued to ramp up. Work is progressing to expand capacity on the Sena railway line, which remains the system bottleneck."</p> <p>Rio Tinto's Q3 2012 share of hard coking coal produced at RTCM was 87kt. Rio Tinto's Q3 2012 share of thermal coal produced at RTCM was 112kt.</p> <p>Total hard coking coal production for Q3 2012 at RTCM was 134kt. Total thermal coal production at RTCM for Q3 2012 was 173kt.</p>	Media Release: <i>Third quarter 2012 operations review</i>
[18]	11/29/2012	<p>"Earlier this year we made our first shipment from Mozambique and have shipped more than 200,000 tonnes to date from our new Benga mine."</p> <p><u>"We continue to view the Moatize Basin as a long term opportunity with the potential to grow beyond 25mtpa."</u>^b</p> <p>"Work continues with industry and the government of Mozambique to progress studies for a long term infrastructure corridor, as all coal producers remain constrained by the lack of capacity. Major capital will not be committed until these studies are complete."</p>	Rio Tinto Investor Seminar November 2012 - Script
[19]	1/15/2013	<p>"During the quarter, production at the Benga mine in Mozambique continued to ramp up. Studies are progressing to expand capacity on the Sena railway line."</p> <p>Rio Tinto's Q4 2012 share of hard coking coal produced at RTCM at Benga was 100kt. Rio Tinto's Q4 2012 share of thermal coal produced at RTCM was 160kt.</p> <p>Total hard coking coal production for Q4 2012 at RTCM was 154kt. Total thermal coal production for Q4 2012 at RTCM was 246kt.</p> <p>Rio Tinto's full year 2012 share of hard coking coal produced at RTCM was 188kt. Rio Tinto's full year 2012 share of thermal coal produced at RTCM was 272kt.</p> <p>Total hard coking coal production for full year 2012 at RTCM was 289kt. Total thermal coal production for full year 2012 at RTCM was 419kt.</p>	Media Release: <i>Fourth quarter 2012 operations review</i>

Notes:

[a] August 2012 Albanese Statements are underlined.

[b] November 2012 Albanese Statement is underlined.

Appendix C.6
Timeline of News Coverage of RTCM
August 1, 2011 through January 16, 2013

	Date	News	Source
[1]	8/4/2011	Rio Tinto H1 net earnings at US\$7.6bn, up 30% YoY "Rio Tinto assumes control of Riversdale and completes acquisition on 1 August: first coal from Benga anticipated by the end of 2011 with substantial growth options ahead."	IIFL
[2]	8/7/2011	Rio Tinto, Mitsubishi offer to buy out Coal & Allied "On August 1, Rio Tinto completed its A\$4 billion acquisition of Riversdale Mining, whose 3.5 million tpy Benga coking coal mine in Mozambique is due to start operations later this year."	Metal Bulletin
[3]	8/9/2011	UPDATE: Vale Mozambique Coal Reaches Port; Eyes Aug Export "Rio Tinto PLC (RIO), which completed its \$4 billion purchase of Mozambique-focused mining company Riversdale Mining Ltd. on Aug. 1, expects to produce first coal from the adjacent Benga coal project by the end of the year and to produce 2.4 million tons of coal annually starting in 2012, 1.6 million tons of which will be metallurgical coal and 0.8 million tons thermal coal."	Dow Jones Business News
[4]	8/9/2011	The Political Climate for Foreign Investment in Mozambique "Mozambique's infrastructure challenges are immense. Tete is far away from ports, forcing parallel trucking of goods to the shallow Port of Beira. Delays by an Indian consortium in refurbishing the 570km Sena railway line (with \$200m World Bank loan) to Beira haven't helped."	Bloomberg
[5]	8/16/2011	FACTBOX-Southern Africa's coal rail and port bottlenecks "Beira: Current coal infrastructure is limited to a capacity of 6 million tonnes on both the railway line and the Beira terminal. Riversdale's allowance at Beira amounts to a third of that, with the remainder allocated to Brazil's Vale, which is developing its large Moatize coal project. Studies are being conducted into expansion of the rail line and construction of a new terminal at Beira, which would have capacity of 18 million tonnes."	Reuters
[6]	8/18/2011	Coal Export From Minas Moatize To Be Started Within The Year; 500 thousand tons maximum a year will be delivered by truck to the Beira port "Incidentally, at the point of 2013, Vale and Riversdale have plans to produce hard coking coal for export in Mozambique by 8.5 and 6.0 million tons a year respectively. Against this, coal transport capability of Sena Railway is only 6 million tons a year."	Tex Energy Report
[7]	8/25/2011	Major Metallurgical Coal Projects In Mozambique (Part 1) "Coal production will start within 2011 at the Benga mining lot, and export of hard coking coal and so forth will start in early 2012. Coal produced at that mining lot is also exported from the Beira port for the time being, and the Nacala port will be utilized in future. Development of the Benga mining lot is divided into the 3 stages, and 5.3 million tons a year of coal (on raw coal basis) will be produced at the stage 1. Production quantity of salable coal is 2 million tons a year, and the breakdown is 1.7 million tons a year of hard coking coal and 0.3 million tons a year of premium thermal coal for export. And, at the stage 2, raw coal production will be raised to 20.6 million tons a year in 2012 to 2013, and production of premium hard coking coal and thermal coal for export will be increased to 3 and 2 million tons a year."	Tex Energy Report

Appendix C.6
Timeline of News Coverage of RTCM
August 1, 2011 through January 16, 2013

Date	News	Source
	<p>Major Infrastructure Projects in Mozambique</p> <p>"The expansion project of the Beira port is to expand the Beira existing port located central of Mozambique, and to increase coal loading capability at that port from 6 million tons to 15 to 20 million tons a year. In parallel with expansion of that port, coal transportation capability of Sena Railway also is largely augmented. In Mozambique, Vale of Brazil and Riversdale Mining of Australia will start successively in full swing production of metallurgical coal for export subsequently. At the year of 2013, metallurgical coal production of 8.5 million tons a year by Vale and 6 million tons a year by Riversdale is expected. Against this, coal loading capacity of the Beira port stays at 6 million tons a year at present.</p>	
[8]	<p>8/29/2011</p> <p>At present, as coal cannot be exported from the Nacala port, expansion of the Beira port is absolutely imperative for Vale and Riversdale to increase their metallurgical coal export. Incidentally, as the water depth of the Beira port is shallow, only the 40,000 DWT class of vessels can berth. With this, 'offshore loading' is imperative to load coal onto a large vessel more than a Panamax ship.</p> <p>The Tete Province-Nacala Port Railway Project (tentative) is to construct the coal transportation railway to link the coalfield in Tete Province and the existing Nacala port located north of Mozambique. The railway to connect the coal field region in Tete Province and the Nacala port is to be constructed at the shortest distance (linear distance about 900 km). Construction of the railway is scheduled to be completed within 2014. Large quantity of metallurgical coal produced at the coal mines in Tete Province can be exported from the Nacala port by Capesized vessels after completion of such railway construction."</p>	Tex Energy Report
[9]	<p>8/29/2011</p> <p>Major Metallurgical Coal Projects in Mozambique (Part 3)</p> <p>"The Zambeze project is the 2nd one that Riversdale has undertaken in Mozambique, and its raw coal production of as many as 45 million tons a year is expected at the stage 1. Total development costs are about US\$2 billion... Riversdale is under planning to construct the grand-scale loading facilities onto barge along with the Zambese River in order to transport smoothly hard coking coal produced at the Zambeze mining lot."</p>	Tex Energy Report ^a

Appendix C.6
Timeline of News Coverage of RTCM
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Date	News	Source
[10] 9/1/2011	<p>Rio Says Benga Coal Project Construction 'Well Under Way'</p> <p>"Rio Tinto Group, the world's second-largest mining company, said it is making progress on its Benga and Zambeze coal projects in Mozambique. 'Progress is being made on Benga, Zambeze and Tete East, with construction on the Benga project well under way,' David Joyce, managing director in charge of project expansion at the company's iron ore unit, said at a presentation in Perth today. 'We are working closely with the government to address infrastructure and national development priorities, which in turn will allow for timely completion and export of product.' Rio joins Vale SA in expanding in Mozambique as coal prices climb. The London-based company may add 25 million metric tons of Mozambique coal to its annual output after completing its A\$3.4 billion (\$3.6 billion) acquisition of Riversdale Mining Ltd., which owns the mines, earlier this year. Benga will ship about 5 million tons of unprocessed coal this year and may expand deliveries to 20 million tons, Riversdale Managing Director Steve Mallyon said on June 20. The adjacent Zambeze project may produce 42 million tons a year, rising to as much as 90 million tons of unprocessed coal, he said."</p>	Bloomberg
[11] 9/5/2011	<p>Mozambique: the birth of a new coal exporter</p> <p>"First coal from Rio Tinto's Benga project is due at year-end 2011 and production is scheduled to reach 5.1 million mt/year by 2013: two thirds of this will be metallurgical coal and one third thermal. The lack of infrastructure provides huge challenges to the mining industry."</p> <p>"Mozambique comprises a long slither of territory on the southeast coast of Africa, with nowhere very far from the sea. However, the lack of infrastructure in the northern two-thirds of the country provides huge challenges to the mining industry.</p> <p>Beira is located in Sofala Province to the south of Tete Province and is connected to the Moatize Basin by the Sena railway. Berth 8 at Beira is being prepared to handle up to 6 million mt/year of coal, but a dedicated coal terminal is to be developed to serve both Vale and Riversdale. Government and CFM officials have provided varying estimates on the handling capacity of the planned terminal ranging from 12 million mt/year to 24 million mt/year, but the precise details remain to be determined.</p> <p>CFM director Adelino Mesquita said: 'It will cost \$200 million or a bit more and we are talking to coal producers, namely Riversdale and Vale, who will be the main users of the line. They have approached us and they are ready to release funding.' As a result, Vale and Riversdale have announced that they will transport most of their coal to Beira by road in the short term because of the delays, although they are banking on being able to transport their output to Beira by rail in the long run."</p>	Energy Economist

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Date	News	Source
[12]	<p>Mozambique: the birth of a new coal exporter</p> <p>"A third option for transporting coal to the coast is also being examined. Riversdale has launched a feasibility study to consider the possibility of shipping coal by barge down the River Zambezi and then along the coast to Beira. The company estimates that it will cost about \$100 million to dredge 180 km of the river and sandbanks on the Chinde Estuary. This is not a large sum in relation to the scale of the emerging Mozambican coal industry, but funding has yet to be agreed. It has been suggested that a tug could pull eight barges, each carrying 2,500 mt of coal, although the government has yet to approve Riversdale's environmental impact assessment on the proposal. The Australian company could finance the work, possibly in cooperation with Vale, but there is as yet no scope for private waterway concessions in the country, so other mining companies in Tete could take advantage of the newly navigable water route without making financial recompense to the original investors. Another possibility is that coal could be transferred from barges to coal carrying ships at sea, without the need to make use of coastal ports. Mozambican government officials have discounted such an option, probably because they are understandably keen to oversee the upgrade of the nation's ports to aid the development of the wider economy.</p> <p>Despite rail and port capacity constraints, the government of Mozambique is keen to encourage more exploration, both in existing and frontier coal producing areas. It plans to launch a new licensing round during the second half of next year, releasing more acreage in Tete Province, as well as in seven other basins, including Cabo Delgado, Manica and Niassa. The discovery of substantial coal reserves outside the Moatize Basin would place yet more pressure on the nation's rail and port capacity... Any overarching logistics solution is likely to include rail, road, port and even barge transport, to ensure that both thermal and metallurgical coal reaches overseas customers in India, China and elsewhere. Putting sufficient transport infrastructure in place is certainly a challenge, but it is one that the government of Mozambique has welcomed, not least because much of that infrastructure can be used to help kick start more general economic development."</p>	Energy Economist
[13]	<p>Coal Exports Commence in Mozambique</p> <p>"Infrastructural bottlenecks remain a major challenge for strong private investment in the country, particularly port facilities and rail road transport."</p>	IHS Markit

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[14] 9/20/2011	<p>UPDATE: Rio TintoCoal Strategy Targets Asia Pacific Markets -CEO</p> <p>"Rio Tinto expects to produce 25 million metric tons of coking coal annually from Mozambique by 2020. It is due to start producing coal for the first time from its recently acquired Benga coal project in the northwestern Mozambique province of Tete by the end of this year and expects first sales of coking coal in 2012.</p> <p>Coking coal produced in Mozambique will be shipped to Brazil, India, China and Europe, Ritchie said. He noted that transport infrastructure is a potential bottleneck in Mozambique's coal development but the various mining companies and steelmakers involved in the project are already working together to expand transport capacity via a series of different routes."</p>	Dow Jones Newswires
[15] 9/21/2011	<p>Brics driving commodity demand</p> <p>"Richie confirmed that the Riversdale-inherited Benga project in Mozambique was due to start exporting coal later this year... Construction of stage one, which will facilitate a run-of-mine production of 5.3-million tonnes a year, has commenced and is expected to be completed in the second half of 2011. The project, which is expected to be expanded to a 20-million tonne run-of-mine operation, is a joint venture between Riversdale, which holds a 65% stake, and Tata Steel, with a 35%"</p>	Mail and Guardian
[16] 9/22/2011	<p>Exploitation Project on Mozambique Coking Coal Made By Rio Tinto; Hard Coking Coal at Zambeze Mine Is 10 Million Tons/Year</p> <p>"At Benga Mining area, the Coal Handling and Preparation Plant (CHPP) is scheduled to start operation within 2011, and the coal production will start. The coal export will begin in 2012, when 1 million tons of hard coking coal and 500,000 tons of thermal coal are scheduled to be exported. Hard coking coal and thermal coal will be transported by rail and truck respectively to the port of Beira. The exploitation at Benga mining area is divided into two phases, and at Phase-1, 5.3 million tons of raw coal per year will be produced. The production on a basis of salable coal is 2.4 million tons per year, the breakdown of which is 1.5 million tons per year is hard coking coal, and 900,000 tons per year is thermal coal slated for export. For a reference, according to the former plan, 1.7 million tons of hard coking coal and 300,000 tons of thermal coal for export were supposed to be produced respectively. At the following Phase-2, the production of coking coal will be increased up to 20 million tons per year by 2015, and at the same time 3 Coal Handling and Preparation Plants are scheduled to be introduced. At this stage, the annual production of hard coking coal will go up to 6 million tons, and the annual thermal coal production meant for export will go up to 4 million tons. On the other hand, as to Zambeze project, Zambeze mining area, a large-sized unexplored mining area in Tete Province will be exploited. At this mining area, the coal production will start in the 1st quarter (January to March) of 2015, and the production of raw coal will be raised up to 4.2 million tons per year by 2019. At this point, 10 million tons of hard coking coal per year and 6 million tons of thermal coal per year are to be produced. Accordingly, Rio Tinto will be able to export max. 16 million tons of hard coking coal per year (based on 100% rights and interests) from both of Benga and Zambeze projects from 2019."</p>	Tex Energy Report

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Date	News	Source
[17] 10/4/2011	<p>Rio sets ambitious goals for Mozambique mines</p> <p>"Rio Tinto has set the goal of producing 25 million tonnes of coking coal a year by 2020 from its new assets in Mozambique."</p> <p>Deutsche Bank analyst Paul Young said there was more growth potential in Mozambique than he had expected, but he noted it hinged on infrastructure expansion. Mr. Young currently expects Rio to produce 16 million tonnes of coking coal from Mozambique by 2020.</p> <p>"[Doug Ritchie] said Rio planned to use a mix of infrastructure to export coal from the region, including exports from the port of Beira starting early next year and, in the future, barging coal down the Zambezi river and railing it to the Port of Nacala."</p> <p>"Rio, which last year produced 9 million tonnes of hard coking coal from its mines in Queensland, plans to export 1 million tonnes of hard coking coal from Mozambique next year, with another 500,000 tonnes of thermal coal to be trucked for domestic use. Rio expects exports from Benga to rise to 1.5 million tonnes of hard coking coal by 2013 and increase to 6 million tonnes a year by 2015. At its wholly owned Zambeze coal project, Rio has the goal of first production by 2015, and that hard coking coal shipments will ramp up to 10 million tonnes a year by 2019. The Zambeze mine will also produce 6 million tonnes of thermal coal a year. Further growth could come from the Tete East Project, adjacent to Benga. Mr Ritchie said logistics would be key to meeting the production goals."</p> <p>"It is about matching the best-value projects to deliver the most valuable tonnes of coal in what is currently a very constrained infrastructure environment,' [Doug Ritchie] said."</p> <p>"Mr Ritchie said Rio could begin barging coal down the Zambezi River on a small scale in 2015, eventually growing to 20 million tonnes a year over time. Another solution, as favoured by Vale, is the rehabilitation of a 1000-kilometre railway to Nacala port. However, Mr Ritchie also raised the possibility of a new, shared line providing a more direct route from the coal mines in the Tete region to the coast."</p>	Australian Financial Review

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[18] 10/13/2011	Mozambi Coal Begins Exploration in Zambezi Basin	All Africa
	"Independent experts believe that within five years over 100 million tonnes of coal per year will be mined from the Zambezi coal basin by several companies, making Mozambique one of the world's largest coal exporters.	
	However, despite the huge potential, few companies are yet moving to develop their concessions. The Brazilian company Vale has already begun exporting coal through Beira port, while Riversdale of Australia is expecting to begin exports shortly.	
	The main challenge is getting the coal to market. The Sena railway between Tete province and the port of Beira only has the capacity to handle six million tonnes of cargo per year.	
[19] 11/2/2011	A further upgrade of the line, including doubling the track in places, could raise this to 12 million tonnes a year.	All Africa
	In response to this bottleneck, Riversdale is looking at sending coal to the port of Beira by barge down the Zambezi River, while Vale is looking at investing in a new rail link to the northern port of Nacala."	
[19] 11/2/2011	President Guezaba in Discussions With Rio Tinto	All Africa
	"For his part, the managing director of Rio Tinto Coal Mozambique, Eric Finlayson, said that the enormous coal potential could make the country one of the largest coal producers in the world. But for that to happen, huge investment was needed in railways, ports, roads and river transport."	
[20] 11/7/2011	Rio Tinto to Expand Iron Ore, Coking Coal Output to Serve World Steels	Japan Metal Bulletin
	"Mr. Albanese... Also emphasized the firm develops [sic] Mozambique coking coal mine to ship first coal in early 2012 and increase the output in 5-10 years."	

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Date	News	Source
[21]	Rio Tinto opts to ship out coal by river	Africa Mining Intelligence
	"The executive director of Rio Tinto Mozambique, Eric Finlayson, seized the occasion of a visit to Australia by Mozambique president Armando Guebuza in late October to confirm his group's decision to carry out coal from its Benga mine by barge along the Zambezi river.	
11/9/2011	<p>The decision will mean dredging the river over a distance of 500 km. Rio Tinto is due to start producing at a rate of 500,000 tons of coking coal at the end of this year and expects to be turning up as much as 29 million by 2016.</p> <p>The choice in favor of barges was due to the limited capacity of the railway between Moatize and Beira operated by Caminhos de Ferro de Mozambique (CFM). The line can carry only a maximum of 6 million tons per year at the moment. Brazil's Vale has already booked a quota of 4 million tons with CFM, leaving just 2 million to other experts, including Rio Tinto."</p>	
[22]	Coal a driving force for Mozambique	Australian Financial Review
	""The Moatize Basin in Mozambique is home of the best undeveloped coking coal resources in the world,' Rio energy chief executive Doug Ritchie recently told investors. 'We see this region providing a development opportunity that will achieve long-term and sustainable growth over a 50-year-plus time-frame.'"	
	"Rio plans to produce 25 million tonnes of coking coal a year from the former Portuguese colony in southern Africa by 2020, which is more than double its production from the Bowen Basin."	
	"Anglo predicts Mozambique will export 20 million tonnes of coking coal by 2020, whereas Rio and Vale are expecting their combined production will be double that."	
11/17/2011	""They've got an awful lot of coal [in Mozambique] and there are numerous projects on the go,' says Shaun Barry, a senior consultant at Xstract Mining Consultants who is familiar with plans in the region. 'But there are infrastructure problems which will plague the country for a long time to come.'"	
	"Vale and Rio are planning to export coal via the refurbished Sena rail line to the port of Beira, which by next year will have a capacity of around 6 million tonnes of annual exports and could be upgraded to 20 million tonnes of capacity."	
	"While there is little doubt Mozambique will eventually become a major coal global centre of coking coal exports, competing against Australia, Mongolia, North America, Russia and Indonesia, predictions of its output in the next decade vary widely... There is clearly demand for the coal. The reason future production estimates vary so widely comes down to views on infrastructure."	

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Date	News	Source
[23] 11/24/2011	<p>FACTBOX-Mozambique's coal infrastructure projects "Mozambique's ports and railways company CFM expects to complete a much-delayed refurbishing of the 600 km-long Sena rail line linking the Beira port with coal mines in the Tete province by early 2013. After the upgrade is completed, the line will be able to carry around 6 million tonnes of coal per year. A further upgrade is planned to increase capacity on the line to around 18-19 million tonnes, which is likely to coincide with the building of a new coal terminal at Beira with a similar capacity, which should be completed by 2015. In the absence of sufficient capacity on the Sena railway line, companies which already started producing, including Beacon Hill Resources, have been transporting coal by trucks."</p> <p>"Rio Tinto is exploring the option of using barges down the Zambezi river to get its coal to Beira. The idea is to initially move 2 million tonnes of coal per year and build that up to around 12 million tonnes."</p> <p>"The shallow Beira port is limited in that it can only accommodate vessels with a capacity of 30,000-40,000 tonnes, which would make it difficult to ship the amounts planned by majors such as Vale and Rio Tinto. The port would require dredging to handle Panamax vessels. Studies are being conducted into the construction of a new terminal at Beira, which would have a capacity to handle between 18-26 million tonnes per year."</p>	Reuters
[24] 12/5/2011	<p>Guy Elliott: Rio Tinto lowers debt, focuses on growth "Meanwhile, costs at its newly acquired Riversdale assets in Mozambique have hit \$500 million, and are expected to rise as a result of adverse currency conditions, as well as a shortage of specialist labour."</p>	Metal Bulletin
[25] 12/5/2011	<p>Tata Steel to start production at its African mines in March, axes 115 jobs, mothballs Welsh mill "According to the mine plan, the first phase of the project will see mining of 5.3 million tonne of run of the mine a year. This translates to 2 million tonne of coal every year, or, 1.7 million tonne of hard coking coal. The companies are yet to seal the timeline for the second stage of the project. The mining capacity is planned to double at 10.6 million tonne in this stage. The last and the final stage will see the mine producing 20 million tonne of run of the mine coal every year."</p>	Accord Fintech

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	Date	News	Source
		<p>Tragic coal legacy \$625m sale could follow tycoon Ken Talbot's death</p> <p>"Rio Tinto got into Mozambique earlier this year by spending \$3.9 billion acquiring Riversdale Mining -- in which Talbot Group once had a significant stake.</p>	
[26]	12/14/2011	<p>Rio's energy chief Doug Richie, who began his mining career in the Ipswich coal fields, said recently, 'The Moatize Basin in Mozambique is home of the best undeveloped coking coal resources in the world.'</p> <p>'We see this region providing a development opportunity that will achieve long-term and sustainable growth over a 50-year timeframe.'</p> <p>Rio is looking to eventually produce 25 million tonnes of coking coal a year from Riversdale Benga prospect."</p>	Daily Telegraph
[27]	12/14/2011	<p>Mozambique Ports Grow With Rio Tinto Appetite for Coal: Freight</p> <p>"Mozambique is attracting exporters, such as Rio Tinto and Sappi Ltd., from neighboring South Africa, which is burdened with high port costs and a lack of rail capacity... Rio Tinto and Rio de Janeiro-based Vale SA are investing in Beira and Nacala ports, north of Maputo, to serve their mines in the central region of the country."</p>	Bloomberg
[28]	12/21/2011	<p>UK-listed Beacon Hill exports first Mozambique thermal coal cargo</p> <p>"The company [Beacon Hill], together with Brazilian miner Vale and Rio Tinto, which now owns Riversdale Mining, is finalizing terms of reference to upgrade the Sena railway to a capacity for coal exports of 6.5 million mt/year by the middle of next year, and to 12 million mt/year by the end of 2012."</p>	Platts Coal Trader International
[29]	1/23/2012	<p>Rio in joint study for port</p> <p>"Rio Tinto has teamed up with Talbot Group and London-listed Ncondezi Coal to study the construction of a new railway and port in Mozambique as part of its effort to produce 25 million tonnes of coking coal a year from the African country by the end of the decade.</p> <p>"The infrastructure could provide a lower-cost transportation option than a \$US4.4 billion project being proposed by Brazilian miner Vale that involves a 1000-kilometre railway through Malawi and Mozambique to the port of Nacala."</p> <p>"The Rio-led Integrated Transport Development (ITD) project involves the potential development of a 500- kilometre railway line to a port at the mouth of the Zambezi River capable of an initial 25 million tonnes a year, eventually rising to 100 million tonnes."</p>	Australian Financial Review ^b

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	Date	News	Source
[30]	2/7/2012	<p>MINING INDABA 2012: Rio Tinto expects first Benga coking coal shipment by end-March</p> <p>"Anglo-Australian mining major Rio Tinto expects to make the first coal shipment from its Benga coking coal project in Mozambique by the end of March, Rio Tinto Energy CEO Doug Ritchie told delegates at the Mining Indaba in Cape Town on Tuesday February 7. The shipment is on schedule and will be shipped from the port of Beira, he said. Rio Tinto acquired the Benga coking coal project in Mozambique's Moatize basin in 2011 with the acquisition of Australian Stock Exchange-listed miner Riversdale Mining. 'Continuing demand for raw materials [arising] from growing local urbanisation is being driven by emerging economies,' Ritchie said. 'Growth in Mozambique depends on many types of infrastructure,' he added, saying that the 600km Sena Railway has been rehabilitated and will carry coal produced at Benga to the port of Beira."</p>	Metal Bulletin ^c
[31]	2/10/2012	<p>Zambezi too costly for Eurasian coal barges</p> <p>"London-listed miner Eurasian Natural Resources Corp has dismissed barging coal from Mozambique's Moatize Basin down the Zambezi River as too costly and difficult... addressing the Mining Indaba conference in Cape Town on Wednesday, ENRC director of coal operations Paul Craven said the company's studies had led it to rule out the option. 'There are significant issues with barging, not least the navigability of the river itself,' he said. 'If I remember, [the Scottish explorer] Livingstone had to carry his canoe up there. Well, it hasn't changed terribly much since those days. The channel has to be re-surveyed on every ship transport. It's not very deep and when there is high water, you don't have enough bridge clearance. Towards the end of the river is a significant wetland with massive environmental issues.'"</p>	Australian Financial Review
[32]	2/13/2012	<p>Rio Tinto Starts Production in Benga Concession From March; Production of 1.6 Mil MT hard coking coal per year at the stage 1</p> <p>"The development of Benga concession is carried out by two stages and at the stage 2, salable coal of 2,400,000 MT per year is produced. Production consists of 1,600,000 MT per year of hard coking coal and 800,000 MT per year of thermal coal for export. In addition, at stage 2 scheduled to be completed in 2015, production of hard coking coal will be raised to 6 million MT per year and that of thermal coal for export to 4 million MT per year. At this stage, 2 million MT per year of thermal coal for the domestic market will be produced as well."</p>	Tex Energy Report
[33]	2/28/2012	<p>Indian Company to Start Coal Exports This Year</p> <p>"By the end of this year, the Sena line, and the coal terminal at Beira port will not be able to handle more than six million tonnes of coal a year. But as more of the mines in Tete come into production, it will become urgent to find other routes to the sea. Thus Riversdale Mining of Australia (now taken over by Rio Tinto) favours barging coal down the Zambezi river and transshipping it onto larger vessels at the mouth of the Zambezi."</p>	All Africa

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Date	News	Source
[34] 3/1/2012	<p>INTERVIEW-Mozambique rejects coal barging study -minister "Mozambican government rejects Rio Tinto's plan to barge coal down the Zambezi river. Transport Minister Zucula told Reuters that Rio Tinto is welcome to rework and resubmit its plans, but he stressed that Mozambique would much prefer mining companies to move their coal by rail."</p> <p>""We can assure everybody that we will build enough rail capacity to carry their coal. The problem is timing,' Zucula said. 'We are working at high speed to get financing. By the end of this year we will reach 10 million tonnes of capacity on the Sena line; next year we will start rehabilitating Nacala (port) and build two new railways.'"</p> <p>"[Zucula] said it was as much a priority for Mozambique as it was for the miners to get the rail lines and ports built."</p>	Reuters ^d
[35] 3/5/2012	<p>Rio Tinto hits hurdle in barge bid "Rio Tinto may have to reconsider how it exports coal from Mozambique after the nation's government rejected an environmental plan for the miner's solution of barging coal down the Zambezi River."</p> <p>"Rio had planned to use a mix of methods to meet its goal of exporting 25 million tonnes of coking coal from its assets in the country by 2020. That included a barging plan initially submitted by Riversdale Mining last May just after Rio took control of the coal developer through a \$3.9 billion takeover bid."</p> <p>"In a September investor seminar, Rio had forecast it could start barging 3 million tonnes of coal annually by early 2015, eventually increasing that to more than 20 million tonnes a year. Riversdale had initially planned barging trials as early as the second half of 2013. But the Mozambiquan Transport Minister, Paulo Zucula, last week said the impact of barging coal down the Zambezi was seen to be "very negative" and there were no plans for mitigation... However, the minister added Rio was welcome to revise and resubmit its barging study."</p> <p>"A Rio spokeswoman said the miner continued to have a dialogue with the government involving the development of transport corridors not only for moving coal but also of other commodities to support social and economic development in Mozambique."</p> <p>"The Rio-led Integrated Transport Development project involves the potential development of a 500-kilometre railway line to a port at the mouth of the Zambezi River capable of an initial 25 million tonnes a year, eventually rising to 100 million tonnes. That infrastructure wouldn't be in place until 2018. Rio expects to export the first coal from its Benga project in Mozambique down the Sena line to the port of Beira by the end of this month. That is later than expected due to logistical constraints and upgrading work on the railway line. Rio has the rights to an initial 2 million tonnes a year of rail capacity."</p>	Australian Financial Review

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	Date	News	Source
		<p>Ripples widen from Rio's Zambezi blow</p> <p>"Mozambique's recent rejection of Rio Tinto's plans to send coal down the Zambezi River by barge could prove damaging to the country's reputation for mining investment and hamper its ability to export coal, warns former Riversdale Mining managing director Steve Mallyon... Mr Mallyon said the reasons for the rejection cited by Mozambique Transport Minister Paulo Zucula, such as the potential for dredging to cause flooding and to hamper the ability for locals to fish, were ill-informed."</p> <p>"Unfortunately this new policy is going to result in an underperforming coal sector for some time," Mr. Mallyon said.</p>	
[36]	3/12/2012	<p>"Mr Zucula has said Rio is welcome to resubmit its study at a later date and the Anglo-Australian miner has kept its options open in that regard."</p> <p>"If barging remains banned, Rio will need to reconsider its medium-term coal export plans as it looks to grow the business to 25 million tonnes of coking coal exports by 2020. It is expected to export the first coal by the end of this month, but only on a small scale due to infrastructure constraints."</p> <p>"[Mr. Mallyon] said a team of 35 engineers from China Communications Construction Company had examined the feasibility of the Nacala project for Riversdale in 2010. The team found the railway was not well-suited for large-scale coal exports because of the narrow gauge, single track nature of the railway and steep mountain grades in certain sections. Riversdale then began investigating a 500 kilometre railway line to a new coastal port near Quelimane. Rio has taken over the leadership of that project, in co-operation with Talbot Group and London-listed Ncondezi Coal, but, if built, the infrastructure is not expected to be in place until 2018."</p>	Australian Financial Review
[37]	3/23/2012	<p>Mozambique Seeks Investors for Coal Rail Lines, Noticias Says</p> <p>"Mozambique is seeking investors for plans to build as many as five railway lines in the central and northern regions to transport coal, Noticias reported, citing Transport and Communications Minister Paulo Zucula. Vale SA and Rio Tinto Plc are among companies the government is in talks with about the projects, the Maputo-based newspaper cited Zucula as saying."</p>	Bloomberg

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	Date	News	Source
[38]	3/29/2012	Rio to Start Benga Coal Shipment as Soon as April, Noticias Says "Rio Tinto will start coal exports to India from its Benga mine in Mozambique's north western Tete province as soon as April... Output from mine acquired from Riversdale has started... Rio sees output 50m tons coal/yr from Benga by 2020... Co. to build coal fired thermal power station by 2017."	Bloomberg
[39]	4/2/2012	Rio Tinto Plans Mozambique Benga Exports in May, Noticias Says "Rio Tinto Plc plans to start exports from its Benga coal mine in Mozambique in May, Noticias reported, citing people it didn't identify. The company also plans to spend \$250 million on infrastructure projects in the southern African country this year, the Maputo-based newspaper reported."	Bloomberg ^c

Rio barging ahead on coal

"RIO Tinto is sticking with plans to barge 3 million tonnes of coal a year down the Zambezi river from two mines in Mozambique by 2015 and to increase this to more than 20 million tonnes, despite reports the government there will not allow it."

"But Rio appears to have missed previous targets of first-quarter production from its more advanced Benga project."

"In presentation slides lodged on its website at the weekend, the mining giant has stuck with its plans for first production from its Zambeze coking coalmine in 2015. The slides made no mention of a reported rejection of Rio's plans to barge coal down the Zambezi on the grounds dredging could worsen flooding... The reports, which came out in early March, were joined by later ones that quoted government sources saying barging down the river could be allowed if the environmental issues could be overcome."

[40]	4/2/2012	<p>"Rio says it is targeting first coal from the \$US516 million (\$499m) Benga project early this year, backing off from previous first-quarter targets. At Benga, 1 million tonnes a year of coking coal is planned to be railed this year, growing to 1.5 million tonnes next year, while 900,000 tonnes of thermal coal is targeted. A second-stage mine plan is targeting 6 million tonnes of coking coal and 4 million tonnes of thermal coal a year, with a gradual ramp-up starting in 2014. At the Zambeze mine, Rio is targeting first production in 2015, and a ramp-up by 2019 to a mine that would produce 10 million tonnes of hard coking coal a year and 6 million tonnes of thermal coal."</p> <p>"In the slides, Rio says it has submitted a mining concession application to the Mozambique government and that environmental and social impact assessments are under way. Rio says it has plans to lift its Mozambique exports beyond 100 million tonnes a year after 2018, through rail and barging."</p>	The Australian
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	Date	News	Source
[41]	4/26/2012	R. Tinto Starts Export Of Benga Hard Coking Coal In May; To Export To Asian Markets From Beira "Rio Tinto is going to rail hard coking coal produced at Benga mining area to the port of Beira in end April using the Sena Railway, and export these coals to the Asian markets in mid May."	Tex Energy Report
[42]	5/3/2012	Mozambique to Start Public Tender for Upgrade of Sena Railway "Mozambique will this month start a public tender for the upgrade of the Sena railway line connecting coal fields in Tete province and the central port of Beira, cabinet spokesman Gabriel Muthisse told reporters late yesterday after the weekly cabinet meeting. The government plans to increase capacity of the lines to 12 million metric tons per year from the current six million metric tons due to demand from coal miners who plan to use the lines."	Bloomberg
[43]	5/3/2012	Rio Tinto to Export Mozambique Coal to India, Noticias Reports "Rio Tinto Plc will export 4.1 million metric tons of metallurgical coal to India this year from its Benga mine in Mozambique, Noticias newspaper reported, citing unidentified officials from the company. The company, which started output from the mine yesterday, plans production of 11 million tons annually by 2013 in an area where it competes with Vale SA and Ncondezi Coal Co., the Maputo-based, state-controlled newspaper reported."	Bloomberg
[44]	5/21/2012	JSW Seeks African Coal to Beat Australian Rains; Corporate India "JSW Steel Ltd., India's second largest importer of coking coal, is turning to Rio Tinto Group's Mozambique mine this year for the fuel as weather and labor trouble in Australia threaten to disrupt output expansion plans. Overseas purchases of coal to fire JSW's blast furnaces will increase to 6.5 million metric tons in the year ending March 31 from about 5 million tons the previous year, Director Jayant Acharya said in an interview, without disclosing the quantity sought from the African mine... JSW expects coal from the Benga mine to meet its quality standards after imports from Vale SA's mines in Mozambique last quarter matched specifications, Jayant Acharya said in the telephone interview yesterday... Rio, the world's third-largest miner, will export 4.1 million tons of coking coal to India this year from the Benga mine, Noticias newspaper reported on May 4, citing unidentified company officials."	Bloomberg

Appendix C.6
Timeline of News Coverage of RTCM
August 1, 2011 through January 16, 2013

	Date	News	Source
[45]	5/21/2012	Tata Steel's Kalinganagar plant to be ready by early FY14 "Meanwhile, the Benga mines project, a JV between Tata Steel and Riversdale Mining of Australia, is operational now and coal produced from this project will be utilised by Tata Steel's Europe and Asian operations. It expects to receive coking coal from its Benga mines project in Mozambique by June 2012."	Projects Today
[46]	5/22/2012	JSW seeks African coal to beat Australian weather and labor issues "Rio, the world's third-largest miner, will export 4.1 million tons of coking coal to India this year from the Benga mine."	Metis Sectoral Post
[47]	5/25/2012	Mozambique's first Benga coal shipment expected soon "The first shipment of coking coal from the Benga project in Mozambique is expected within weeks but the co-owners disagree on the details. According to a Tata Steel presentation, the first shipment is expected by the end of this month, while a Rio Tinto spokesperson said shipments are planned to start from June."	Metal Bulletin ^f
[48]	6/1/2012	Mozambique: Southern Africa's 'Boom Town' "Adequate infrastructure is a concern common across the southern African region and correctly managing and addressing this issue will be key to the success of Mozambique's mining industry. Analyzing this, Anton van Dalsen of Commodities and Resource Finance at Investec, a South African specialist banking and asset management group said: 'Investec is keen on Mozambique and its extensive coal deposits, but to a degree the projects there, with their reliance on things such as railways and ports, are more logistical exercises than mining ventures.'"	Engineering & Mining Journal
[49]	6/3/2012	Mozambique Commissions \$200 Million Coal Terminal, Noticias Says "Mozambique President Armando Guebuza will commission a coal terminal in the port city of Beira, Noticias reported, citing a statement by Portos e Caminhos de Ferro de Mozambique EP, the southern African nation's port and railway utility. The \$200 million facility will be used by Vale SA and Rio Tinto Plc for five years, the Maputo-based newspaper said, citing the contractual terms between the ports company and the miners. The terminal will be connected to the Tete coal fields via the Sena railway line, it said."	Bloomberg
[50]	6/6/2012	New Coal Terminal at Beira Starts Operation; Strengthening Work On Sena Railway Is To Be Completed By November "The new coal terminal at the port of Beira, a coal shipping port in Mozambique started operation on 4th of June (local time)."	Tex Energy Report
[51]	6/20/2012	Rio Tinto Looks for Strategic Partner "The Anglo-Australian mining company Rio Tinto has called for expressions of interest from companies wishing to develop and operate a coal fired power station at its Benga coal mine in the western Mozambican province of Tete."	All Africa

Appendix C.6
Timeline of News Coverage of RTCM
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	Date	News	Source
[52]	6/25/2012	Rio Tinto Starts Coal Exports From Mozambique, Noticias Says "Rio Tinto Coal Mozambique will today start its first coal exports of 35,000 metric tons from Benga mine, destined for India, state controlled daily Noticias reported, citing Rio's Doug Ritchie, executive director for energy. * Loading began Friday, second shipment planned mid-July * Rio Mozambique plans to spend \$160m for mine ops this year and \$250m for resettling people on concession"	Bloomberg
[53]	6/27/2012	Out of Africa: ore competitor on rise "Rio Tinto sent its first shipment of coal from its Benga project in Mozambique to an unidentified Indian steelmaker overnight, as analysts continue to point to the African country's potential to export large volumes once crucial infrastructure is built." Rio Tinto's chief executive of energy said, "We are also continuing to work with the government of Mozambique to secure the development of comprehensive infrastructure for efficient transport of coal from mine to port, which is a priority for the further development of the region."	Australian Financial Review ^g
[54]	6/28/2012	Rio Tinto Begins Mozambican Coal Exports "The massive infrastructural deficit in the Mozambican economy continues to pose an operational risk for large international conglomerates that is [sic] expected to invest sizeable amounts in Mozambique's lucrative coal and natural gas resources."	IHS Markit
[55]	7/3/2012	Rio Tinto Sees Mozambique Coal Mine Output at 20 Million Tons "Rio Tinto Plc's Mozambique unit expects run-of-mine coal production at its Benga mine to increase to 20 million metric tons a year by 2015 from 5.3 million tons now, Andrew Woodley, the company's operating and development officer said. Rio Tinto is doing mine, rail, port and power-plant studies 'that we anticipate will prove the viability of up to four large-scale mines,' Woodley told a conference today in the capital, Maputo."	Bloomberg
[56]	7/26/2012	Presentation of Rio Tinto, Member of the National Council of Enterprises in the CTA "When the [Benga] mine reach [sic] its full capacity, the production potential of Benga will be around 5.3 Mtpa of untreated coal, 1.5 Mtpa of coking coal for export and 0.9 Mtpa of thermal coal, in the first phase of production. In the second phase to begin in 2015, the time is strongly dependent on the availability of the capacity of the coal chain, potential growth could reach 20Mtpa of untreated coal."	All Africa

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	Date	News	Source
[57]	8/8/2012	Engen Wins Tender to Supply Diesel & Lubricants in Mozambique ""With the conclusion of logistic rail lines in four years' time - namely the Moatize-Nacala rail line, which has 40 metric tons (MT) p.a. capacity; and the Moatize-Macuse rail line, which has 20 MT p.a capacity - as well as the expansion and upgrade of the current infrastructure, Mozambique will be able to export about 70 MT p.a."	Gulf Oil & Gas
[58]	8/8/2012	Rio Tinto H1 net profit down 22% on lower prices "Shipped first cargo of premium hard coking coal from Benga mine in Mozambique."	IIFL
[59]	8/16/2012	Moody's assigns an A3 rating to Rio Tinto Finance (USA) Plc's notes; affirms existing ratings "Rio Tinto's A3 senior unsecured rating considers a number of key elements including a) the company's broad asset base, b) diversity of mineral and metals exposures, c) diversity of geographical exposures, and d) focus on long-lived, low cost producing operations... However, the rating also considers the group's capital expenditure plans, which include projects in more challenging countries from an infrastructure, regulatory, political, and legal system structure perspective as well as industry-wide operating and development cost pressures."	Moody's
		Albanese resets compass on African adventure "Just 18 months ago, Rio Tinto appeared to be making a big push into Africa, with its \$4 billion takeover of Mozambique coal developer Riversdale Mining and a \$US700 million settlement agreement with the government of Guinea affirming its rights to the Simandou iron ore project. But since then a combination of declining commodities prices, slow government approvals and insufficient infrastructure has placed those projects on the relative back burner compared to expansions of its hugely profitable West Australian iron ore business. Rio chief executive Tom Albanese says when it comes to capital spending, the miner's new catchword is 'pragmatic'."	
[60]	8/16/2012	"There was no mention of the goal set last October of exporting 25 million tonnes of coking coal from Mozambique by 2020. Instead, he confirmed Rio would produce around 400,000 tonnes from its Benga mine this year. 'Significant additional tonnes may also be delivered,' he said. 'However, it's realistic and likely that we'll take longer to develop this infrastructure than previously planned due both to the timing of some of the approvals but also internal constraints on capital.' In April, Rio said it expected to build three new coal handling plants at Benga by 2015 to allow for annual exports of 6 million tonnes of coking coal and 4 million tonnes of thermal coal. Furthermore, it planned to start exports from a second mine, Zambeze, by 2015. But Mr Albanese has not reaffirmed those targets in recent briefings. Analysts who met Mr Albanese in Sydney yesterday said he remained positive about the long-term market for coking coal despite recent price falls. He was also optimistic about the prospects for Mozambique as strip ratios and costs continue to rise at coal operations in Australia... In Mozambique, the lack of a sizeable rail line to a deepwater port is hampering exports and the government has provisionally rejected a river barging solution proposed by Rio."	Australian Financial Review

Appendix C.6
Timeline of News Coverage of RTCM
August 1, 2011 through January 16, 2013

	Date	News	Source
[61]	9/29/2012	Mozambique's riches: All fired up "Poor infrastructure is a big drawback for investors. Vale is unable to transport all the coal it mines to market because the railway cannot cope. Along with Rio Tinto, it is building facilities to ship out more coal. Electricity is in short supply. In a few years Mozambique could face severe shortages. "	The Economist
[62]	10/15/2012	Rio Tinto expects layoffs, project postponements as China growth lags "The company's rail and port expansion projects for coal in Mozambique could be delayed, said Bloomberg, citing Rio CEO Tom Albanese. 'We're more cautious for the outlook for our business for the next few quarters than we would have been a couple of months ago,' Albanese said."	SNL Coal Report ^h
[63]	10/22/2012	Rio Tinto reports higher coal production, sales in Q3'12 "Rio Tinto's Benga coal mine in the Moatize Basin of Mozambique exported its first shipment of premium hard coking coal in June. In the third quarter, the Benga mine produced 134,000 tonnes of hard coking coal and 173,000 tonnes of thermal coal."	SNL Coal Report

Beira port coal terminal to be operational in 2015-official

[64]	12/3/2012	<p>"The new coal terminal at the port of Beira (Sofala province, centre), which underwent temporary refurbishment work between 2010 and the end of 2011, is expected to be fully operational as of 2015, the chairman of state port and railway management company Portose Caminhos de Ferro de Moçambique (CFM), Rosário Mualeia, said. According to media reports, the temporary refurbishment work was finished at end August 2011. This included emergency dredging costing US\$43 million that made it possible for the port to receive ships with deadweight tonnage (DWT) of 60,000, as compared to up to 30,000 DWT previously. CFM chairman said the conclusion of reconstruction of the Sena railroad will make it possible to 'increase the annual volume of cargo processed at the port of Beira, up to 20 million tons per year, mainly by exporting coal from Moatize.'"</p> <p>"Mining companies Vale Moçambique [and] Riversdale Mining, later acquired by the Rio Tinto group, in 2010 signed a memorandum of understanding with CFM, in order to temporarily repair the terminal at the port of Beira to export the Moatize coal. The two companies were given coal processing and export capacities of 5 million tons per year, and Vale Moçambique took up most of the terminal's capacity – 68 percent – while Riversdale Mining took the remaining 32 percent."</p>	APA Maputo
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Appendix C.6
Timeline of News Coverage of RTCM
August 1, 2011 through January 16, 2013

Date	News	Source
[65] 12/14/2012	Mozambique's coal bonanza "Depressed coal prices, tight capital markets, shoddy railways and ports have cooled Mozambique's coal bonanza and will delay export projects aimed at supplying booming demand in Asia... But while the government still projects annual exports of around 100mn tonnes by the turn of the decade, producers and financiers now doubt this will happen anytime soon. 'The boom will be delayed based on two things; rail infrastructure constraints and the volatility of the coal price,' said James Maposa, Africa mining programme manager at consulting firm Frost & Sullivan."	Gulf Times
[66] 1/15/2013	SP Angel - Morning View - Tuesday 15.01.13 "In Mozambique production continues to ramp up with 100 kt of hard coking coal produced in Q4 2012 and 160 kt of thermal coal giving production for 2012 of 188 kt and 272 kt respectively. Studies are ongoing on the Sena railway line."	Bloomberg

Notes and Sources:

This appendix includes news reports found in a keyword search of news reports related to Rio Tinto in Factiva and Bloomberg. The search terms I used in both cases were "Mozambique" and ("coal" or "barging" or "Sena" or "rail" or "infrastructure" or "Benga" or "Zambeze" or "Zambezi"). In my Factiva search, I included "Rio Tinto PLC" and "Rio Tinto Ltd" in the Company field. The date range for the search was August 1, 2011 to January 16, 2013. The search specified that news reports be identified as "Publications" and excluded news reports identified as "Web News." The search resulted in 539 news reports from Factiva identified as "Publications" (five news reports were identified as "Web News" and were excluded) and 123 news reports from Bloomberg, for a total of 662 news reports across both sources. The appendix excludes news reports reporting solely on the financial details of the Riversdale purchase and includes quotations related to RTCM and infrastructure, project development, coal production, coal exports, or resources and reserves.

- [a] This story was published on the same day from the same outlet as the entry above, but in a different news report.
- [b] This story was also reported by seven other news outlets from 1/18/2012 to 1/23/2012.
- [c] This story was also reported by one other news outlet on the same day.
- [d] This story was also reported by five other news outlets from 3/2/2012 to 3/6/2012.
- [e] This story was also reported by three other news outlets from 4/18/2012 to 4/23/2012.
- [f] This story was also reported by four other news outlets on 5/24/2012 and 5/25/2012.
- [g] This story was also reported by 14 other news outlets from 6/25/2012 to 7/2/2012.
- [h] This story was also reported by seven other news outlets on 10/9/2012 and 10/10/2012.

Appendix C.7
Commentary from Equity Analysts' Reports Regarding RTCM Valuation, Infrastructure, or Resources
November 26, 2010 through January 16, 2013

	Date	Contributor	Headline	Commentary
Acquisition: November 26, 2010 through September 19, 2011				
[1]	12/5/2010	JP MORGAN	Rio Tinto Limited: Talks with Riversdale Mining	<p>"In response to comments in the AFR (and other newspapers), Riversdale announced this morning that the company has had discussions with Rio Tinto over a potential transaction for an indicative consideration of A\$15/share, valuing Riversdale (RIV AU; Neutral) at A\$3.54bn. We would make the following points: The speculated price equates to only a 6% premium to RIV's closing price on Friday, but a 48% premium to the 3-month average price. It is also largely in-line with our valuation of A\$14.69/share (Jun-11) including the Zambeze project (base case of A\$10.49/share excludes Zambeze)."</p> <p>"Mozambique has the potential to develop into a major source of coking coal supply, potentially rivaling Australia over time. Assuming RIV reaches its total production target of 23.4Mtpa (attributable, c.62% coking) would take RIO's share of the global HCC market to just over 15.3% (pro-forma 2010)"</p> <p>"As we have pointed out in our commentary on Riversdale, the key hurdle in project development is infrastructure and the current plan of barging looks challenging, particularly as tonnages rise. Should RIO (or indeed any of the major producers) acquire RIV, we would not be surprised to see the development plan re-worked to include a rail & port infrastructure solution which could delay project start-up from the currently-envisaged Q1 CY12. An alternative would be to use barging as an interim solution until more permanent facilities could be developed."</p>
[2]	12/6/2010	LIBERUM	Rio Tinto	<p>"Australian coal company Riversdale states it has held talks with Rio Tinto over a A\$15/shr, A\$3.5bn acquisition... Riversdale is a pre-production coal company building assets in the developing Tete Basin in Mozambique, where its flagship Benga asset that has 4bn tonnes of in-situ coal resources, is expected to produce 60% of its 10Mt pa production as premium hard coking coal."</p> <p>"Highly coveted coal company would fit with Rio's single digit M&A strategy."</p>

Appendix C.7
Commentary from Equity Analysts' Reports Regarding RTCM Valuation, Infrastructure, or Resources
November 26, 2010 through January 16, 2013

	Date	Contributor	Headline	Commentary
[3]	12/6/2010	RBS STRATEGY	Rio Tinto: Potential Move on Riversdale	<p>"We believe RIO would need to offer closer to A\$20ps or A\$4.9bn for a deal to be successful. In our view, the potential outlay is relatively small for RIO given the option value RIV's projects could give the company."</p> <p>"A takeover of RIV would make strategic sense, in our view, on the basis that: 1) it would offer RIO an instant entry into a significant coal province, 2) consideration would be around our RIV NPV, 3) the deal would be relatively small in the context of RIO's roughly US\$24bn pa cash flow, and 4) it would help diversify away from iron ore."</p> <p>"RIV has potential to produce over 20Mtpa coal, coking/thermal a 60/40 split"</p> <p>"We believe RIV's assets are tier-1 projects; ie, large, low cost, export oriented and expandable."</p> <p>"We estimate at full capacity (10yrs from now), RIV could produce 21Mt of equity share coal, consisting 8Mt thermal and 13Mt coking with the option to expand further."</p> <p>"The key risks are around infrastructure solutions, which are still in the early stages of development."</p> <p>"Given the relatively small size of RIV relative to RIO, the transaction barely registers from an EPS accretion/dilution point of view."</p> <p>"Our NPV for RIV is A\$18.23ps."</p> <p>"One of the major appeals of RIV is the significant option value the large resource offers."</p> <p>"RIV's PFS for Zambeze is due to be released in late 1Q11, which should include more information on the capex required to dredge shallow parts of the Zambezi river to enable barging."</p> <p>"First production from Benga (RIV 65%) is due to commence in 4Q11 before it ramps up to 10Mtpa of saleable production (100% basis) by 2016. We estimate first production from Zambeze is in 2015 before ramping up to 15Mtpa of saleable production by 2019."</p> <p>"The Benga asset is slated to produce coal that is railed to the port of Beira, while the Zambeze project will potentially barge coal down the Zambezi River to a transshipment facility."</p> <p>"Mozambique government approval for barging is due 4Q11. Barging would provide an avenue to port of about 20-25Mtpa of saleable product, enough for all of RIV's production. Rail to the port of Beira is 580km, while barging down the Zambezi River is 520km."</p>
[3]	12/6/2010	RBS STRATEGY	Rio Tinto: Potential Move on Riversdale (continued)	<p>"RIV faces significant infrastructure hurdles to bring it's coal to port. Benga Stage 1 production will be railed to port. There is still some uncertainty around the final capacity for the rail and port available to RIV for Stage 2 & 3."</p> <p>"The barging option (Zambezi Project) is yet to be proven to be economically viable, and technically feasible. Failure in the ability to barge may require an alternative railway/port to be constructed. Barging is a critical issue for the company. In our view, barging is likely to be technically possible, and the government has made positive public statements supporting the barging as it would open the river up for other industries such as agriculture."</p> <p>"[A]ny delay to first production would impact our valuation. These could be around gaining approvals for barging, delays to port construction."</p>
[4]	12/6/2010	UBS INVESTMENT BANK	Key Call: Rio Tinto Plc	<p>"Riversdale's Benga NPV + Zambeze transaction implies >\$16ps of value"</p> <p>"The Benga project is RIV's most advanced project with 4.0bt of resource."</p> <p>"RIV is focusing on producing 10Mtpa from Benga, with first production scheduled for 2H 2011. The product split is expected to be 6.0Mt hard coking coal with thermal coal production of 4.0Mt."</p> <p>"The Zambeze project is less developed than Benga, but is larger in area (as shown in Chart 1) and has a larger resource (9.0bt)."</p>

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November 26, 2010 through January 16, 2013

	Date	Contributor	Headline	Commentary
[5]	12/7/2010	MORGAN STANLEY	Rio Tinto Ltd: Riversdale Could Add Value	<p>"Longer dated we forecast Riversdale to produce over 8mt of coal annually (Riversdale share) with coking coal 50% of sales."</p> <p>"The risk for Riversdale is the logistics complexity and funding of its coal projects in Mozambique in our view."</p> <p>"Riverdale faces a number of technical challenges in our view to bring the proposed mine development into production. These include the logistics of transporting coal up to 580km to port and loading issues at the port of Biera that can only accommodate smaller ships."</p> <p>"We think Rio Tinto could potentially make an acquisition of Riversdale accretive on a DCF basis up to A\$15.50/share. If the deal were fully debt funded, the cost of capital is expected to be in line with Rio Tinto's recent cost of bond issuance at around 3% annually. This low cost debt funding implies a reduced cost of capital for Rio Tinto and the acquisition could be accretive to DCF up to A\$16.80/share."</p> <p>"That said, we think Mozambique coking will be in high demand from steel mills once it enters the market and price ranking is expected to be slightly below the premium Australian coking coals from the Bowen Basin in Queensland."</p> <p>"Benga resource indicates a coal yield of 60% to produce a product that is 50/50 coking coal and thermal coal."</p> <p>"Coal for the export market will initially be railed approximately 580km to the port of Biera. The rail is currently being upgraded by a state run company and is scheduled to be operational by mid 2009 at a capacity of 18Mtpa. Initially Vale and RIV will share access to the rail, however RIV is looking at options to barge its product to port. The rail cost is still to be decided, however indicative costs are US\$20/t. RIV's initial studies into barging product down the Zambize River to a deep open water port indicate that it may be a cheap and efficient alternative. RIV estimates the cost to barge at approximately US\$7/t – a significant operational cost saving."</p> <p>"We do not expect infrastructure in Mozambique to be able to support the 20Mtpa ROM production until at least FY2016."</p> <p>"Benga Stage 1 development (5.3Mtpa ROM) in August 2010 was advised by the company as on schedule for production during 2H11. The Stage 1 development is expected to produce ~1.7Mtpa of hard coking coal and 0.3Mtpa of export thermal coal."</p> <p>"Stage 3 completion assumes a production rate of 20Mtpa ROM and a production profile of 6Mtpa hard coking coal, 4Mtpa of export thermal coal and 2Mtpa of domestic coal."</p>
[5]	12/7/2010	MORGAN STANLEY	Rio Tinto Ltd: Riversdale Could Add Value (continued)	<p>"Recent upgrades of the Siena Rail line (~6Mtpa capacity) and Biera Port (~6Mtpa capacity) are expected to support Stage 1 coal exports from BCP."</p> <p>"To support Stage 3 production from BCP, Riversdale requires significant expansion of infrastructure in Mozambique."</p> <p>"Key risks we highlight for Riversdale include: Infrastructure Build Significant & Relies on Third Parties [and] Riversdale to Negotiate with Vale for Infrastructure Access"</p>
[6]	12/21/2010	LIBERUM	Liberum Capital Morning Comment	<p>"Trading in Riversdale has been halted amid reports Rio Tinto has submitted a formal A\$16/shr, A\$3.8bn offer. Riversdale is a pre-production coal company building assets in the developing Tete Basin in Mozambique. Its flagship Benga project has 4bn tonnes of coal resource, where 60% of its forecast 10Mt pa production will be premium hard coking coal. With total coal resources of 11.7bn tonnes, the mooted A\$3.8bn acquisition price is equivalent to an EV / Resource of US\$1.24/t (Measured & Indicated). Riversdale is highly coveted (its shareholders are Tata Steel 24%, CSN 13%, Wuhan Steel 8%) and if a bid materialises, an aggressive auction situation is likely and Rio is unlikely to get a clean shot."</p>

Appendix C.7
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	Date	Contributor	Headline	Commentary
[7]	12/23/2010	MERRILL LYNCH	Rio's multi-decade growth plan puts Riversdale in the spotlight	<p>"All cash offer of A\$16/share, implied value ~A\$3.8b."</p> <p>"The Benga project is near production & has potential for up to 10Mtpa of thermal & HCC. Zambeze – RIV's 2nd Moatize asset (adjacent to Benga) – is a large deposit of 9000Mt of thermal and HCC, due for production 2015/16. In addition to these assets, RIV holds promising exploration licences in East Tete, adjacent to Benga & Zambeze projects."</p> <p>"Our risk-weighted upside valuation of Riversdale at ~\$18.5/share implies a value of ~\$4.7b. If the Rio offer at \$16/share is successful, the implied upside to our Rio NPV is ~A\$0.30¢ (or 0.35%)."</p> <p>"Mozambique's Moatize coal basin is expected to be established as the world's newest source of premium hard coking coal."</p> <p>"The scope of the project is to develop a large-scale, open cut operation with planned full saleable production of ~10mtpa, comprising 6mtpa coking coal and 4mtpa steaming coal (Chart 12). Production is expected to kick off in late-2011, with sales ramping up in three stages to 2014/15."</p> <p>"The resource base at Zambeze is significant and is currently > 2x that of Benga, although we note that a majority of the resource is in the lower-probability Inferred category."</p> <p>"The product suite is similar to Benga although the met coal component is of a modestly lower quality."</p> <p>"In our view, infrastructure development will be critical to the development of the Moatize Basin, as much as it was for the Bowen Basin in the 1960s, 70s and beyond. Ultimately, the Moatize Basin will need to be served by multiple rail networks, and ports, with the possibility of an additional transport solution via barging on the Zambeze river."</p>
[7]	12/23/2010	MERRILL LYNCH	Rio's multi-decade growth plan puts Riversdale in the spotlight (continued)	<p>"In total, there are three clear infrastructure solutions: Rail to port at Beira, rail to the northern port of Nacala, or barging to Chinde. RIV should be able to ramp up all three stages of Benga (10mtpa rate) through early-stage infrastructure to the port of Beira."</p> <p>"Long-term infrastructure solutions – beyond the capacity of Beira – will require either (i) barging on the Zambeze River or (ii) a significant infrastructure solution to the northern port of Nacala, through Malawi. The barging solution is undergoing detailed technical studies and the conceptual potential is ~20mtpa."</p> <p>"Infrastructure rent - both rail and port - are expected to weigh on future costs as port and rail agreements are likely to include an additional (and considerable) charge to reflect capital recovery."</p> <p>"There has been a lot of debate, essentially since RIV kicked off prospecting in the Moatize Basin, about the quality of Moatize met coal. Specifically, there were suggestions that this region would not meet the quality criteria for "premium" quality met coal."</p>

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November 26, 2010 through January 16, 2013

	Date	Contributor	Headline	Commentary
[8]	12/23/2010	JP MORGAN	Rio Tinto and Riversdale Mining	<p>"The offer implies a 24% and 39% premium to Riversdale's 1 month and 3 month VWAP (pre 3 December 2010) respectively."</p> <p>"The A\$16/share offer is in-line with our December 2011 NPV valuation including the Zambeze project of A\$15.61/share."</p> <p>"Using a 10% discount rate (similar to what we use in our Rio Tinto valuation), we estimate the value of Riversdale's assets including Zambeze at A\$20/share implying an increased bid could still be value accretive under our modeling."</p> <p>"From a RIO perspective, acquiring Riversdale at \$16/share has a fairly immaterial impact on our group NPV."</p> <p>"We believe that Riversdale's coking coal assets fit Rio Tinto's stated criteria for top tier assets: Long-life, Expandable, Low-cost"</p> <p>"Mozambique has the potential to develop into a major source of coking coal supply, potentially rivaling Australia over time. Assuming RIV reaches its total production target of 23.4Mtpa (attributable, c.55% coking) would take RIO's share of the global HCC market to just over 14.1% (pro-forma 2010)"</p> <p>"We believe RIV's coal resources have a high strategic value. One of the key challenges is bringing this coal to market, through the development of the Benga mine and longer term, the Zambeze mine, but also in delivering sustainable, costeffective infrastructure solutions. Mozambique is one of the least developed countries globally, hence we note the significant challenge in delivering greenfield infrastructure solutions in country."</p> <p>"Key aspects of the infrastructure plans include: Expansion of the existing Sena railway line such that it can accommodate RIV's expanded production at Benga. Construction of a new Beira Coal Terminal with capacity of 18-24Mtpa with completion planned to coincide with RIV's Stage 2 & 3 expansions of Benga"</p>
[8]	12/23/2010	JP MORGAN	Rio Tinto and Riversdale Mining (continued)	<p>"As a backup plan, RIV is also considering other, albeit less desirable, solutions to the infrastructure development challenge. These include: Barging coal down the Zambeze river to the coastal town of Chinde and Construction of "missing link" on Nacala railway corridor to the deepwater port of Nacala."</p> <p>"It's worth noting that Vale, who is developing the Moatize coal mine close to Benga, considered construction of the Nacala missing link but deemed it too expensive for the initial development. The development of this rail line is likely to only occur if a third party investor decides to participate in the project"</p> <p>"At this early stage, we can't be definitive that the necessary export infrastructure will be available to RIV for the expanded Benga project. This puts our overall project valuation at risk; hence we will continue to monitor progress on delivering the necessary transport infrastructure solutions. A complicating factor in this issue is the presence of Vale and its plans to develop the Moatize mine adjacent to Benga. Will Vale be friend or foe to RIV as the two look to develop export infrastructure capacity for their expanded projects? We expect the two parties to hold numerous discussions about transport infrastructure over the coming year and we wait with interest the outcome of these negotiations."</p>
[9]	12/23/2010	LIBERUM	Liberum Capital Morning Comment	"Good asset, small fry M&A for Rio"
[10]	12/23/2010	MACQUARIE RESEARCH	Rio Tinto: A\$16ps bid for Riversdale	<p>"A relatively small cost of capital and basin play. At A\$16ps, fully diluted transaction value would be A\$3.9bn, which represents around 3% of Rio Tinto's current market capitalisation. The offer is set to be financed through existing cash reserves and credit facilities."</p> <p>"RIV is an African-focused coal producer and developer. The large majority of RIV's value lies in its Moatize Basin tenement base in Mozambique, currently comprising resources at the Benga (65% RIV) and Zambeze (100%) development projects. Existing plans target first production from the flagship Benga project from mid-2011, with a targeted three phase ramp-up to 12mtpa saleable production by mid decade (50% export coking coal, 33% export thermal coal and 17% domestic thermal coal)."</p>

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[11]	12/23/2010	SOCIÉTÉ GÉNÉRALE	Riversdale acquisition in line with expectations but probably not a done deal	"If completed, this acquisition would provide Rio Tinto with a substantial tier one coking coal development pipeline in the emerging Moatize Basin in Mozambique. Riversdale has 13bn tonnes in high quality thermal coal and coking coal resources in Benga (potential 20mt pa ROM, o/w 6mt hard coking coal and 4mt export thermal coal) and Zambeze (potential for 90mt) projects in Mozambique."
[12]	1/11/2011	LIBERUM	A \$3.9bn offer for Riversdale opens	"We continue to regard this as high quality, small fry M&A from Rio, particularly if it is not forced to bump its bid." "Rio's offer at US\$1.24/t resource represents a formal "print" for valuing Tete Basin coking coal mines." "Rio and Vale likely to "go it alone" on infrastructure. Access to export infrastructure is one of the largest hurdles facing Tete basin developers. We expect Rio and Vale will most likely pursue "go it alone" strategies on rail, with Vale most likely in our view to develop the northern corridor rail line to the deep water port of Nacala." "One such solution could be that the existing Sena rail line that runs to the port of Beira or barging down the Zambezi river." "What appears clear is that if Rio acquires Riversdale, the Tete basin will have fully functioning infrastructure in the near future, the only question mark will be that of 3rd party access."
[13]	2/10/2011	MERRILL LYNCH	Delivering dividend growth & \$5 bn capital return	"Riversdale: expected to deliver 60% hard coking coal, 40% thermal. Early stage development asset, first production from Benga 1 anticipated in 2H 2011."
[14]	2/10/2011	DEUTSCHE BANK	What a difference 2 years make	"With the balance sheet now repaired we expect Rio Tinto to pursue additional bolt-on acquisitions in the size range of US\$2-10bn. The focus appears to be on companies that have Tier 1 assets that require a large amount of development capex, similar to the recent A\$3.9bn bid for Riversdale, which owns large coking coal resources in Mozambique." "Note that we do not include the potential acquisition of Riversdale in our numbers yet" "Its recent transactions however show some of this move to increased risk. The sale of its US coal assets (The Cloud Peak IPO) and A\$16/s bid for Riversdale effectively represents a swap of lower margin but low risk US coal assets for high potential margin Mozambique assets. Basically liberating low growth/low returning employed capital for high growth/ high returning capital employed (clearly with higher risk)."
[15]	2/14/2011	RBS STRATEGY	Rio may bid for EQN	"RIO's bid for Riversdale Mining highlighted the company is prepared to grow further in Africa. We see Zambia as a lower risk region than Mozambique, which could mean a bid for EQN may be easier to get over the line from a geopolitical risk point of view."
[16]	2/14/2011	UBS INVESTMENT BANK	Feedback from CEO roundtable	"Tom discussed some of the challenges (particularly on management time & Government liaison) of entering new jurisdictions such as Mozambique, Mongolia, Guinea and Africa. In his view, the sector has become much more geo-political over the last 2 years & internally Rio has dedicated more time to country risk & is very cognisant of government nationalisation. With >80% of Rio's investments in OECD countries, Rio is comfortable with their current geographic mix."

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[17]	3/10/2011	JP MORGAN	Very modest increase in bid for Riversdale - ALERT	<p>"Increased offer represents a 40% premium to our base case NPV for Riversdale: When RIO made its original A\$16/share offer for Riversdale in December 2010, we estimated that it was broadly in-line with our base case NPV for RIV including the Zambeze project of A\$15.61; but c.26% under our NPV for RIV applying a 10% WACC (in-line with RIO's cost of capital) of A\$20.02. Since the original offer was made, RIV has provided cap-ex guidance for the Zambeze project of "not less than US\$2.9bn", significantly above our previous estimates, and the RIV-Tata JV has moved to full ownership of the Benga Power Plant project. As a result, the revised offer of A\$16.50/share represents a 40% premium to our base case NPV for RIV including Zambeze (A\$11.77/share) though is still c.12% below our RIV NPV applying a 10% WACC (A\$18.80/share)."</p> <p>"1) RIO will not be held to ransom to buy the asset and would rather walk away than compete against itself; and 2) RIO wants control and therefore the minimum acceptance clause is clearly very important."</p> <p>"The small increase in the offer price does appear slightly unusual in our view"</p> <p>"In particular, smaller acquisitions provide opportunities for a greater number of interlopers and market participants to derail the process. This has been evident not only with its pursuit of Riversdale, but also with its interest in Extract."</p>
[18]	3/29/2011	RBC CAPITAL MARKETS	Rio's \$16.00 Offer Goes Unconditional; Increased to \$16.50 if It Reaches 47%	<p>"With Rio's balance sheet behind the projects, we could expect more rapid development and potentially larger scale, more efficient infrastructure solutions to be considered."</p> <p>"First production is scheduled for mid-2011. A delay in the construction schedule would impede cash flow and could result in the need for additional project funding. Longer-term, infrastructure remains a risk as an expanded rail line or alternative to carry coal ~600km to the coast is not yet available, and the existing port is insufficient to accommodate intended longer-term volumes. Energy prices and environmental considerations could potentially influence operational costs."</p> <p>"About 13Bt of resource has been delineated in Mozambique so far with the potential to transform Riversdale into a top 10, coking coal exporter... Riversdale aims to produce at least 6Mtpa hard coking and 6Mtpa thermal coal."</p>
[19]	4/1/2011	MERRILL LYNCH	Energy CEO briefing: Expect more Uranium investment	<p>"Coal quality is remarkable, but comes with a higher waste ratio (which may mean higher mining costs). Ritichie believes their involvement can "accelerate" production from Benga and Zambeze. The #1 priority will be to produce quickly – in a friendly price environment."</p>
[20]	4/14/2011	MORNINGSTAR INC.	Rio Tinto: Pass the Umbrella Please	<p>"The company also highlights its successful 52.6% majority purchase of Riversdale Mining Limited, delivering control of "significant tier-one coking coal projects" in Mozambique. Tier one in geological terms, but not necessarily from a sovereign risk perspective. It flags a quick start to accelerating development of the Benga project."</p> <p>"[Riversdale] has huge undeveloped deposits in Mozambique containing more than 10 billion tonnes of thermal and coking coal. RIO is short coking coal and this might be a comparatively cheap entrée."</p>

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[21]	4/28/2011	DEUTSCHE BANK	Riversdale = options	<p>"We have modelled in detail the Riversdale Mozambique coal project into our Rio Tinto numbers now that the acquisition is complete. The IRR on the original project is at face value a disappointing 6.5% but this is for a 20Mtpa project from a resource base that could support multiples of this. The optionality in terms of growth options and increased African options is where the upside risk to valuation lies."</p> <p>"Upping the risk profile – a worthwhile use of cash. With significant capex due to be spent on perceived lower risk iron ore growth in the Pilbara, we believe that it is strategically sound for Rio Tinto to be spending some of its cash on some higher risk projects that create significant future options. We see Riversdale as one of these. In our view, Rio has effectively swapped low fixed margin, US GDP growth coal assets in the Powder River Basin in the US for potentially higher margin, and higher growth assets in Mozambique and expanded its global footprint."</p> <p>"A modest 6.5% return to start the project. After a US\$3b acquisition price and an estimated US\$3.4b capital cost (there are several options still to be decided), the initial 20Mtpa coking and thermal coal project returns a 6.5%IRR on our assumptions (US\$80/t thermal coal and US\$120/t coking coal). The 13bt resource could, however, support an operation at least 5x this in size and this optionality is where the value lies in our opinion. While the final configuration, infrastructure design and fiscal terms are still to be arranged, we have approached this with a conservative starting point and acknowledge that there is upside risk to our valuation."</p> <p>"Valuation declines 1% to A\$101.82/sh; risks. Our A\$101.8/sh PT is set broadly in-line with our A\$101.82/sh NPV (assumes an 8.9% WACC, CoE 12.7%, RFR 5.5%, beta 1.2). Our valuation has declined on the inclusion of the first stage of the Riversdale coal development."</p> <p>"Large resource = long life – Riversdale has been drilling out its vast tenement package in central Mozambique since late 2006. The company has delineated a 13Bt coking coal and thermal coal resource split between the 4Bt Benga and 9Bt Zambeze projects (see Figure 2). Resource exists at Zambeze and also the Tete east project license area."</p> <p>"Supporting big production rates – The project has potential to support a major low cost 20Mtpa+ export operation split approx. 9Mtpa from Benga and 15Mtpa from Zambeze."</p> <p>"High coking coal fraction – based on geological and metallurgical testwork to date we expect the in-situ coal mix to be approx. 75% coking coal and 25% thermal coal, and the product mix to be approx. 60% coking 40% thermal at Benga and approx. 70% coking 30% thermal at Zambeze."</p>

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[21]	4/28/2011	DEUTSCHE BANK	Riversdale = options (continued)	<p>"The options on infrastructure may take some time to study and optimize in our view. The Government of Mozambique has recently stated that it prefers a multi-user development option on all coal rail and port. This implies that Rio will likely have to share rail and port with Vale."</p> <p>"Three infrastructure options are likely to be studied by Rio Tinto in our view. These are; Option 1 – Rail to Beira port in the south, will support part of Benga. Production from Benga will likely be transported via the Sena rail line to the port of Beira. The Sena rail line has recently been upgraded. The port of Beira is currently being upgraded to 6Mtpa, of which Rio Tinto will have a 2Mtpa allocation. This will support the Stage 1 development of Benga which is currently in construction phase. Development of the Beira port is being managed by Vale. A further port expansion to 10Mtpa is planned. The Government of Mozambique has announced a US\$500m development plan for Beira. Option 2 – Barge to Chinde, will support the remainder Benga and part of Zambeze. Another option is barging 570km down the Zambeze River to Chinde then trans-shipping to Panamax or Cape size vessels. A barging feasibility Study and EIS will be submitted to the Government of Mozambique in 2011. Riversdale Mining has found no physical impediments to coal barging on the Zambezi River, although some dredging may be required on certain sections of the river. It is still uncertain what volumes can be barged down the river. Option 3 – Rail to Nacala port in the north, will support all of Zambeze. The Nacala port in the north is a medium term alternative. The Government of Mozambique has announced a US\$500m development plan for the rail and port at Nacala. This port should support the entire production from Zambeze. There is a 900km rail line in place but this may require upgrading. A 120km 'missing link' to site must be constructed."</p> <p>"Riversdale has already approved a Stage 1 “starter project” at Benga. US\$395m (excluding working capital) has already been approved for Stage 1 development, which involves initial production of 5.3Mtpa (ROM) to produce approximately 1.7Mtpa of high quality hard coking coal and 0.3Mtpa of export thermal coal. This is essentially a starter project."</p> <p>"Riversdale also outlined a timeline, capex and production rates for Stages 2 and 3 at Benga. We model Stages 2&3 only. We have assumed a 2yr delay on both projects."</p> <p>"The acquisition of Riversdale by Rio Tinto represents an interesting shift for Rio Tinto to higher risk growth...In this case, we view that the company has effectively swapped low fixed margin, US GDP growth coal assets in the Powder River Basin (PRB) in the US for potentially higher margin, and higher growth assets in Mozambique."</p> <p>"Our base case of 20Mt of production gives us a low IRR of 6.5% including the Riversdale acquisition price (13% without)."</p>

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[22]	5/9/2011	MERRILL LYNCH	Riversdale acquisition creates growth options	<p>"The acquisition by Rio represents a significant strategic growth move into met coal – a product till now that Rio was underweight. We have modelled in the Riversdale assets into our base case Rio valuation. NPV is broadly neutral, down just 0.2%."</p> <p>"The Moatize coal basin is expected to be established as the world's newest source of premium hard coking coal. By 2025, Mozambique is projected to account for ~20% of the seaborne met coal market (~55mtpa), of which the combined operations of Benga and Zambeze, could potentially account for 20- 25mtpa. For Rio, this represents a strategic move into high quality met coal."</p> <p>"Overall, there are limited changes to near term EPS estimates, with some upgrades in Energy earnings offset by higher interest costs. There is a small decrease to our group NPV, given the small NPV premium that we believe Rio paid for Riversdale."</p> <p>"Production is expected to kick off in late-2011, with sales ramping up in three stages to 2014/15."</p> <p>"Key milestones have been reached in the project: a mining lease has been granted (25 years), environmental approval for mining and power operations has been obtained, and the Stage 1 development has been approved by the JV partners. The project is underpinned by a 500mt coal reserve, and customer off-take is underwritten by Tata (40% agreement) and WISCO (10% subject to pending MoU)."</p> <p>"Zambeze to follow suit, and could be significantly larger [than Benga]"</p> <p>"In our view, infrastructure development will be critical to the development of the Moatize Basin... Ultimately, the Moatize Basin will need to be served by multiple rail networks, and ports, with the possibility of an additional transport solution via barging on the Zambeze river."</p> <p>"Infrastructure solutions for the Moatize coal basin can be classified as near-term, or early-stage, and long-term solutions."</p> <p>[Table 2] "Riversdale model summary: 2011E Total NPV: 2,564 US\$mn, 2012E Total NPV 2,879 US\$mn."</p>
[23]	5/31/2011	CITIGROUP INC	Never Looked Cheaper	[Figure 20 Rio Tinto divisional profit forecasts]: "Energy: Riversdale - 2011e 5 US\$m, 2012e 61 US\$m, 2013e 78 US\$m, 2014e 136 US\$m, 2015e 119 US\$m."
[24]	6/17/2011	MERRILL LYNCH	Riversdale acquisition successfully wrapped up	<p>"The acquisition represents a significant strategic growth move into met coal – a product till now that Rio was underweight. We make marginal changes to our FY12/FY13 estimates. Rio's NPV has moved modestly higher to A\$79.67/share (+0.1%)."</p> <p>[Table 2: Riversdale model summary] "2011E Total NPV 3,591 US\$mn, 2012E Total NPV 3,966 US\$mn."</p>
[25]	6/17/2011	LIBERUM	Acquires 100% of Riversdale	<p>"Riversdale's flagship and most advanced, 65% owned Benga project has 502Mt of reserve and 4.0bn tonnes of resource, however the earlier stage Zambeze project has 9.0bn tonnes of resource and its coking coal potential was announced in September. Benga is due to start exporting coal in 2H'11. With outright control now achieved we conclude that this a very good deal for Rio; we estimate the average traded comp of major coal producers today is US\$6.2/t of reserve and US\$1.5/t resource."</p> <p>"By way of reference Ncondezi Coal (BUY), which is exploring for coking coal 30km away from Benga at its flagship license that has 1.8bn tonnes of coal, is valued at US\$0.33/t resource (M&I) or US\$0.12/t resource (M,I,&I)."</p>

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[26]	7/6/2011	JP MORGAN	Addressing the de-rating	<p>"Over the last 6 months the company has secured a very interesting portfolio of emerging market assets in what we expect to form some of the most important mineral supply basins, namely Mozambique coking coal (RIV), Mongolian copper (IVN) and Guinean iron ore (Simandou). It is the only large mining company to do so."</p> <p>"In summary the company is sitting on 13bnt of hard coking coal resources with a yield of c.60% – we estimate from adopting Riversdale guidance production comes on stream before the end of 2011. This is from the Benga project in which the company has a 65% stake alongside Tata with 35%. Steady state production of 10mt fully consolidated is expected to be reached by H2 2014 – see chart below. However, the company is also developing the 100% owned Zambeze project, which should add another 10Mt pa of hard coking coal with full production by 2016."</p> <p>"In summary Rio Tinto will be producing more coking coal than Canada within 5 years. Our current capex estimation for this growth is \$2.6bn. Now both capex, production and the timeline have not been endorsed by Rio but is nonetheless impressive even if they only get close."</p> <p>[Figure 3: Riversdale attributable production profile]: "2011E 0.6mt, 2012E 1.9mt, 2013E 3.1mt, 2014E 9.2mt, 2015E 16.6mt, 2016E 22.6mt."</p>
[27]	7/6/2011	STIFEL	Mozambique plans to revise mining law	<p>"According to newswires Mozambique's government plans to revise the country's mining law and will seek to give the state a share of projects in 'strategic sectors' such as coal or titanium."</p> <p>"We expect Mozambique to clarify this situation which in all likelihood will not be as extreme as the news suggests. We believe the risk to Rio Tinto and its recent US\$4bn acquisition of Riversdale to be slight (coal accounts for c.5% of our NAV and Riversdale assets <2%) but recognise that the government could put pressure on the company to develop these assets expediently, which can only be a good thing for investors. We maintain our BUY recommendation and price target of 5538p."</p>
[28]	7/28/2011	JP MORGAN	Australian Resources: Incorporating updated commodity forecasts in our modeling	<p>"In addition to valuation support we believe the market is not fully valuing the potential for further capital returns or for value-accretive growth from Oyu Tolgoi, Riversdale etc., albeit over an extended timeframe."</p>
[29]	8/3/2011	RBC CAPITAL MARKETS	H1 2011 Preview: Weather Impact to Blunt Strong Results	<p>[Exhibit 2: Net Asset Value]: "Energy: Riversdale - Mozambique: Ownership 73.4%, Disc Rate 8%, 2011E \$2,490 US\$MM, 2012E \$2,753 US\$MM, 2013E \$2,986 US\$MM."</p>
[30]	8/3/2011	JP MORGAN	Interim results - ALERT	<p>"First and foremost valuation remains very supportive as the cheapest of the diversifieds on 2011E PER and EV/EBIDTA and second cheapest after AAL in 2012. The company has taken valuable early-mover positions in three of the most prospective basins for future commodity supply via Riversdale, Ivanhoe and Simandou which we feel the market is underappreciating."</p>
[31]	8/5/2011	UBS INVESTMENT BANK	Cashflow remains strong	<p>[Table 3: NPAT by division]: "Energy: Riversdale - US\$M [negative] 17 H1 11e."</p>
[32]	8/5/2011	MACQUARIE RESEARCH	Buyback and capex bump	<p>"The acquisition of Riversdale was completed 1 August, with first production from Benga expected towards the end of 2011."</p> <p>[Fig 13: Divisional EBITDA, US\$M]: "Riversdale: [negative] 22 1H11A."</p>
[33]	8/25/2011	CREDIT SUISSE	Increases in Ivanhoe to 48.5%	<p>"Goodwill: The purchase of Riversdale added to goodwill but was only modest."</p>

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Post-September 20, 2011 Investor Seminar: September 20, 2011 through February 28, 2012			
[34]	9/20/2011	CREDIT SUISSE	Shipping flat out but cautious sentiment
			"Mozambique (Riversdale) to be a 25Mtpa coal operation by 2020 utilizing a range of infrastructure solutions (rail, barge, 3-4 port options)." "Mozambique Coal: The forum proved to be a good output for Rio to properly disclose its plans for the acquired Mozambique (Riversdale) coal assets. The plan to for the province to be a 25Mtpa coal operation by 2020 utilizing a range of infrastructure solutions (rail, barge, 3-4 port options). Initial production from Benga project is due later this year which will be delivered to market via rail. However the longer term infrastructure solution is likely to involve a range of transport modes including existing rail, new rail and barging to link up with four possible ports. The current infrastructure can support approx 5Mtpa of coal exports while the mines under development now are 30Mtpa concerns with potential to reach even 100Mtpa. An eventual shared infrastructure solution may be the option with public private partnership likely to be the favoured option by the Government."
[35]	9/20/2011	RBC CAPITAL MARKETS	Investor Seminar Highlights Growth Optionality
			"Mozambique Coal: Following the closing of the acquisition of Riversdale earlier this year, Rio Tinto is focused on developing these coal assets in Mozambique's Moatize Basin, which it believes will be world-class in scale and quality. By 2020, the company is forecasting 25Mtpa of coking coal production from its projects in Mozambique, with a +50-year mine life. Commissioning at the Benga project (65% Rio Tinto, 35% Tata Steel) is under way, with first production expected by year-end. Permits and a 25-year mining lease are in hand and the company expects 1Mt of coking coal production in the first year of production along with 0.5Mt thermal coal for domestic use. Rio is in the process of rehabilitating 570km of existing rail to allow 2Mtpa of stage 1 capacity. By 2013, the company expects 1.5Mtpa of hard coking coal production and 0.9Mtpa thermal coal. Rio is targeting stage 2 production of 6Mtpa hard coking coal, and 4Mtpa thermal coal by 2015." "At the 100%-owned Zambeze project, the company continues to explore and work on the environmental and social impact assessment, and it has submitted an application for a mining concession to the government. The company is aiming for initial production by 2015, growing to 10Mtpa hard coking coal, 6Mtpa thermal by 2019 at Zambeze." "For production growth beyond Benga's stage 1, however, infrastructure buildout is key. Rio estimates that current infrastructure capacity is 5Mtpa, but also that the company's mines could produce up to 30Mtpa, with total regional potential of 100Mtpa." [Exhibit 7: Infrastructure Plans Key to Mozambique Coal Growth] "First Coal: Late 2011/early 2012, 1mtpa, Sena Rail Line/Port of Beira. Barging: 2015, 3mtpa, growing to 20mtpa+, River barging on Zambeze River, and transloaded to OGV off shore. Expand existing rail and port export corridors: 2016+, up to 40mtpa across various corridors (Rio Tinto share to be negotiated). Greenfield Rail & Port: 2018+, 25mtpa, growing to +100mtpa (Riv share to be negotiated), New infrastructure built on new alignment, likely to be shared access."
[36]	9/20/2011	UBS INVESTMENT BANK	Still confident on outlook
			"Mozambique: More colour around the development plans for Mozambique coal were provided. While ultimately Rio sees production at 25Mtpa by 2020 with a 50+ year life, Benga Stage 1 will be up to 2Mtpa with 1.5Mt in 2012 (1Mt coking coal and 0.5Mt thermal). Benga 2 is slated for 2015 and will be 6Mtpa coking and 4Mtpa thermal post ramp up. Zambeze expected to see first production in 2015 and by 2019 be 42Mtpa ROM for 10Mtpa HCC and 6Mtpa thermal coal. Logistics options include barging from 2015 which is seen at 3Mtpa initially with vision that it could grow to 20Mtpa. Then there is an expansion of the existing rail and port corridors from 2016 which could lift volume to 40Mtpa. Ultimately a greenfield port and rail solution will be required crossing country jurisdictions and is likely to be shared with ultimate capacity upwards of 100Mtpa. Rio has a 300-400ktpa domestic coal contract at export parity pricing already in place."

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	Date	Contributor	Headline	Commentary
[37]	9/21/2011	JP MORGAN	Feedback from Investor Seminar	<p>"We sense that within this overarching strategy the company has recognized three strong requirements: expertise in managing risk attached to mineral development in third world countries (e.g. Mongolia, Mozambique and Guinea)... We believe they are probably ahead of the game on these three versus the global peer group although would be challenged by Freeport on Third World risk management and perhaps Glencore on balance sheet management."</p> <p>"Benga stage 1 is the most well defined of the projects. Currently 2mt of in-pit coal has been uncovered, while key to delivering first production is completion of the CPP by end 2011. The company plans to produce 1mt of coking shipped by rail and 0.5mt of thermal trucked in 2012, ramping up to 1.5mtpa coking and 0.9mtpa thermal at a yield of 45%. RIO has secured 2mtpa of capacity on the Sena to Beira rail line which is being rehabilitated."</p> <p>"Logistics is the key. Beyond that, capacity growth is entirely dependent on logistics as ever in bulk mining. Mr Ritchie believes the basin over the long term can produce >100mtpa but logistics capacity in place is currently 5mtpa with 30mtpa under development. RIO believes the solution will be a combination of the various options under study: rehabilitating/expanding existing rail lines to Beira and Chinde, a greenfield rail line to Nacala or another location on the coast, and barging. The rail ownership structure is to be negotiated but likely to be government controlled alongside a number of the major operators (Vale and ENRC)."</p>
[38]	9/21/2011 ^c	DEUTSCHE BANK	Talking up copper and coal growth	<p>"Coal – Infrastructure remains the key in Mozambique: There is more growth potential in Queensland and Mozambique than we expected. Rio's coal production will grow from c. 48Mt to 70Mtpa by 2015 (100% basis). We then forecast an increase to c. 90Mtpa by 2020. The strategic objective for the Moatize basin in Mozambique is to reach 25Mtpa of coking coal by 2020. We have modeled in 16Mtpa by 2020. The proposed development of the Tete East project is the difference."</p> <p>"The key bottleneck is infrastructure, both Rail and port. Rio is in discussion with the other operators in the region, mainly Vale and the government to come up with the best approach to develop. They think a private run enterprise with some government equity is the most likely outcome. We have first sealable production by 2014 whilst Rio are guiding to 2012, so the ramp-up is much more aggressive from Rio than we had assumed."</p> <p>"Mozambique: Large resource = long life - Riversdale has been drilling out its vast tenement package in central Mozambique since late 2006. The company has delineated a 13Bt coking coal and thermal coal resource split between the 4Bt Benga and 9Bt Zambeze projects (see Figure 2). Resource upside exists at Zambeze and also the Tete east project license area."</p> <p>"The project has potential to support a major low cost 20Mtpa+ export operation split approx. 9Mtpa from Benga and 15Mtpa from Zambeze. Rio has also outlined potential production from Tete East."</p> <p>"High coking coal fraction – based on geological and metallurgical testwork to date we expect the in-situ coal mix to be approx. 75% coking coal and 25% thermal coal, and the product mix to be approx. 60% coking 40% thermal at Benga and approx. 70% coking 30% thermal at Zambeze."</p> <p>"Large investment in infrastructure required – significant investment in infrastructure is required due to limited rail and port capacity. We expect total investment of US\$5.3bn for Rio Tinto's share."</p> <p>"Low strip ratio – partly offsetting the low coal yield will be a low strip ratio of less than 2:1. This should deliver an average operating cost across both projects of around US\$65 per tonne of product coal."</p>

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[39]	9/21/2011	LIBERUM	Copper & Energy seminar: macro not as bad as priced, warming up on M&A	"Defining Mozambique as “the best undeveloped coking coal province in the world” Rio outlined its aspirations to deliver +40Mt pa coking coal capacity from the region by 2020, almost 4x total group production in 2010. Conceding that future rail infrastructure will need to provide shared access, we consider this has positive implications for potential junior coal producers such as Beacon Hill, Ncondezi or ENRC." "The Company is ultimately targeting 25Mtpa coking coal from the recently acquired Riversdale assets, with Benga Stage 1 on track for commissioning by year-end. Together with Benga (first production late 2011) and Zambeze (first production 2015), the Company is targeting over 40Mtpa coking coal and 7Mtpa thermal coal. Multiple infrastructure options are being implemented to grow coal chain capacity which today can support 5Mtpa of coal export but is undergoing development to reach 30Mtpa within 5 years and 100Mtpa long term."
[40]	9/23/2011	JP MORGAN	Global Metals & Mining	"Benga stage 1 is the most well defined of the projects. Currently 2mt of in-pit coal has been uncovered, while key to delivering first production is completion of the CPP by end 2011. The company plans to produce 1mt of coking shipped by rail and 0.5mt of thermal trucked in 2012, ramping up to 1.5mtpa coking and 0.9mtpa thermal at a yield of 45%. RIO has secured 2mtpa of capacity on the Sena to Beira rail line which is being rehabilitated." "Logistics is the key. Beyond that, capacity growth is entirely dependent on logistics as ever in bulk mining... RIO believes the solution will be a combination of the various options under study: rehabilitating/expanding existing rail lines to Beira and Chinde, a greenfield rail line to Nacala or another location on the coast, and barging. The rail ownership structure is to be negotiated but likely to be government controlled alongside a number of the major operators (Vale and ENRC)."
[41]	11/15/2011	CITIGROUP INC	Alert: Energy update	"On coal, Rio is on track to deliver around 15% volume growth in 2012, the Mozambique coal capacity growth remain on track with first coal early next year."
[42]	11/15/2011	RBS STRATEGY	Update on Rio's energy business	"Benga Stage 1 - Benga is 65%-owned. Commissioning should start by year-end and the operation is expected to rail 1mt of coking coal and truck 0.5mt of thermal coal in 2012. By 2013 the mine is expected to produce 1.5mtpa of hard coking coal and 0.9mtpa of thermal coal." "Benga Stage 2 - the plan is to add three further coal handling modules, the first to start up in 2015. This will allow production of 6mtpa of hard coking coal and 4mtpa of thermal coal." "Zambeze - 100%-owned by Rio Tinto, with first production planned for 2015. By 2019 Rio hopes to be producing 10mtpa of hard coking coal and 6mtpa of thermal coal. The mining concession has been applied for and Rio is currently undertaking environmental and social impact assessments." "Infrastructure - Rio Tinto is working closely with the government and coking coal neighbour Vale on various infrastructure issues, including a power plant at Benga, barging (2015, 3mtpa growing to 20mtpa+), the expansion of existing rail and port export corridors (2016+, 40mtpa), and a greenfields rail and port set-up (2018+, 25mtpa rising to 100mtpa+)."
[43]	1/6/2012	CREDIT SUISSE	Empire state of mines	"RIO – low risk growth: On a risk adjusted basis, RIO looks the cheapest of the large caps even based on our normalised iron ore prices of \$82/t. In our view, RIO’s Western Australian iron ore expansions are lower risk vs. peers, while the frontier projects in Mozambique coal, Oyu Tolgoi Mongolia copper and Simandou Guinea iron ore provide longer term alternative growth channels." "Structural Decline in FCFs: Part of the large increase is due to the failure of large M&A deals, in our view. The last decade saw several major acquisitions, but ended in several failed ‘mega-deals’ – Vale and XTA, BHPB and RIO and XTA and AAL. Recent M&A activity has been focused on earlier stage development, high growth companies (Riversdale, Petrohawk) and on consolidating minority positions (Coal & Allied, De Beers). Looking at the mining companies’ allocation of capital shows that the trend has moved away from large M&A to organic growth." [Note: Riversdale not included in list of key Rio Tinto projects.]

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[44]	1/17/2012	CREDIT SUISSE	Iron ore production exceeds guidance, capex may creep up further in 2012	"In our view, Rio's Western Australian iron ore expansions are lower risk vs. peers, while the frontier projects in Mozambique (coal), Oyu Tolgoi Mongolia (copper) and Simandou Guinea (iron ore) provide longer term alternative growth channels. We like Rio as a play on the iron ore cycle and for potential increase of cash returns." "Rio expects first production from its Benga mine in Mozambique early 1Q12 with the first shipment of HCC from the Beira port around March 2012."
[45]	1/17/2012	CREDIT SUISSE	Commodities Forecast Update: From Fear Flows Opportunity	"Mozambique should also make a more significant contribution towards the end of this decade but rail capacity in particular will limit export expansions for now." [Exhibit 128... Met Coal Exports] "Mozambique 2011F 1 mt, 2012F 2 mt, 2013F 4 mt, 2014F 5 mt, 2015F 6 mt." [Exhibit 145... Thermal Coal Exports] "Mozambique 2011 0.1 mt, 2012F 1.0 mt, 2013F 2.0 mt, 2014F 3.0 mt, 2015F 4.0 mt."
[46]	1/17/2012	DEUTSCHE BANK	4Q11 - Strong iron ore sales overshadows capex creep	"Benga – first shipment from the Benga coal mine in Mozambique has been pushed out a quarter to the end of the first quarter 2012. The delay has been caused by logistical constraints and upgrade work to the railway line. This will be something to watch as Rio embarks on the larger expansion in Mozambique." "We also note the delay to first shipments from Mozambique due to logistical constraints associated with the Sena railway line upgrade, but this delay does not come as a surprise."
[47]	1/17/2012	GOLDMAN SACHS	Full year 2011 production results: Iron ore strong	"RIO's Mozambique's Benga mine is expected to process and ship its first production in 1Q12, after logistical constraints and upgrade work on the Sena railway forced revisions to the original timeline."
[48]	1/17/2012	UBS INVESTMENT BANK	Iron ore ahead of guidance	"RIO is guiding for first processing of coal at their Mozambique mine Benga in early Q1 with first shipments towards the end of Q2. Logistical constraints and upgrade work on the Sena railway line have contributed to revisions to the original timeline."
[49]	1/18/2012	CANACCORD GENUITY	RIO TINTO SIGNS A RAIL AND PORT AGREEMENT WITH NCONDEZI COAL	"Rio Tinto (RIO : LSE : 3,589p BUY) has signed a port and rail agreement with Ncondezi Coal (NCCL : AIM : 49p Not Rated), a mining company developing coal assets in the northern Tete province of Mozambique, and Minas de Revuboe." "The envisaged transport solution has potential to provide a scalable coal export capacity of 25- 100Mtpa. Rio Tinto requires access to further infrastructure to export the expected coal production from its Benga and Zambeze projects that are also in the Tete province." "Ncondezi reports that the infrastructure project has the potential to be the lowest-cost rail transport option for coal projects in the Tete province owing to the shortest rail distance to port when compared with alternatives and the use of modern infrastructure to maximise economies of scale."
[50]	1/18/2012	MACQUARIE RESEARCH	Humming in the Pilbara	"First production from Benga (Mozambique) is now expected to be processed through the wash plant early 1Q12 with the first shipment in late 1Q11. Logistical constraints and upgrade work on the Sena rail line have driven the incremental delay."
[51]	1/18/2012	MORNINGSTAR INC.	Rio Tinto's Iron Ore Still Leading the Way	"And first coking coal output from RIO Mozambique's new Benga mine is anticipated early in first-quarter 2012, with shipments expected by quarter's end."

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[52]	1/27/2012	BARCLAYS	Room for the re-rating to continue	"The company has been at the forefront of the development of new mineral basins that have emerged in the latest supercycle i.e. Mozambique coking coal...." "The company has acquired and developed some world-class long-term growth projects in frontier mining jurisdictions, in our view, in particular...Riversdale (coking/ thermal coal in Mozambique)." "RIO is alone among the London listed majors in venturing to these regions (Vale is the only other global major to do so) and as such has secured in our view first mover advantage in terms of asset quality and infrastructure positions with a view to further consolidation." "Coking coal is similarly forecast to deliver a 10% CAGR 2011-15E and to more than triple from current levels by 2020E to reach c.25mtpa attributable thanks to the start-up of Benga and Zambeze. This would make Rio a bigger producer of coking coal than Teck Cominco is today."
[53]	2/2/2012	UBS INVESTMENT BANK	2011 Profit Preview	"The back half of 2011 also incorporates expenditure on Mozambique Coal, which at this stage is being expensed not capitalised. Before evaluation expenditure, the Energy division is seen generating an underlying NPAT of US\$1,048m, up 9% y/y. The costs associated with Mozambique Coal development is the reason we believe our estimate is below consensus."
[54]	2/9/2012	BMO CAPITAL MARKETS	FY2011 Earnings in Line; Dividend Increased; US\$9.2B Aluminum Write-Off	"Energy: ... At Riversdale (Mozambique), acquired in August 2011, first production is expected to be processed and shipped from the Beira port in Q1/12. BMO Research expects sales to be limited to approximately 5Mtpa until port upgrades are complete in 2016."
[55]	2/9/2012	UBS INVESTMENT BANK	Solid H2; cranking up the dividend	"We had thought development costs at Benga may have been higher as it nears production. Part of this may be capitalised interest of ~US\$200m."
[56]	2/10/2012	CREDIT SUISSE	Positive dividend surprise yet costs and capex creeping up	"Rio expects first production from the Benga mine in Mozambique to be processed through the wash plant early 1Q12, with the first shipment of hard coking coal from the Beira port around March–April 2012."
[57]	2/10/2012	MORNINGSTAR INC.	Iron ore is a strength, aluminum a sleeper for Rio Tinto.	"It spent USD 6.1 billion acquiring Riversdale Mining in Mozambique and greater Oyu Tolgoi equity through Ivanhoe Mines. These do set the company up for the future but don't necessarily contribute immediately."
[58]	2/13/2012	RBS STRATEGY	CFO Forum feedback	"The ideal structure for the region is still under review, however the company doesn't see an opportunity at this time to bring in another party. It would look to work with other mining companies in the country to extract synergies from infrastructure developments. RBS view: we continue to like the Riversdale transaction. Mozambique should ultimately help RIO materially expand its met coal exposure and increase diversification across the Group."

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[59]	2/20/2012	CLSA ASIA-PACIFIC MARKETS	Loading the furnace	<p>"Mozambique struggling for infrastructure"</p> <p>"The country's infrastructure is in a pretty poor state after over a decade of civil war prior to 1992, but upgrades are well under way over the 600km-plus line from the mines in Tete province to the port at Beira. The initial stages of the project's output will be barged down the river, although the scale of barging is limited as the river is as shallow as 2 metres in places. Significant additional investment in infrastructure will be needed for producers to achieve planned exports above their first-stage expansions, but given the profitability of the mines and amount of investment already undertaken, we expect this to be delivered eventually."</p> <p>"Mozambique is competitively positioned to become a major coking-coal exporter. The Tete province is undeveloped with the low-hanging fruit unpicked. Coal deposits, which consist of layers of thin seams at very low strip ratios, should enable low-cost mine development to be undertaken incountry, more than offsetting the higher infrastructure and coal transport costs. The low strip ratios and flat-lying nature of the coal seams have enabled both Rio Tinto and Vale to report large coal resources and reserves. Additionally, the country's location on the southeast coast of Africa makes it the closest supplier to India. It is also well positioned to ship to Brazil, as many empty ships move past the country heading from the Pacific back to the Atlantic market to pick up Brazilian iron ore for shipment into Asia."</p>
Post-Barging Rejection: March 1, 2012 through August 7, 2012				
[60]	3/19/2012	MERRILL LYNCH	Loose ends EXT, GRR, RIV tidied up; bauxite setback ...	<p>"Riversdale - massive resource and reserve downgrades: Elsewhere, Rio has had almost a year to digest and analyse the US\$3.7bn acquisition of RIV (Aug 2011) and has significantly lowered resources estimates vs. 2010 Riversdale's data. Reserves lower by 73% to 137Mt. Resources at Zambeze were downgraded 78%, to 1,984Mt, and Benga down 85%, to 613Mt."</p> <p>[Table 1: Financial model summary] "Asset Valuation: Riversdale Mining 2010A US\$M 2,754, 2011F US\$M 4,557."</p>

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[61]	3/19/2012	CLSA ASIA-PACIFIC MARKETS	No river for Riversdale	<p>"The rejection by the Mozambique government to allow coal barging on the Zambezi River will result in a three year delay to Rio Tinto's production ramp up schedule and bring forward around US\$2b of capex as a standalone port and rail solution is needed earlier than expected. An infrastructure sharing agreement with Vale makes sense but looks a long way off. The delay in production and increase in upfront capital combined with a significant downgrade to reserves and resources for both projects has reduced our valuation for the Mozambique coal assets by 36%, reducing our price target for Rio Tinto by 3% to \$68.00."</p> <p>"In the absence of barging, production is expected to be capped at 2mtpa until significant greenfields port and rail infrastructure is built in ~2018."</p> <p>"We had previously assumed Rio Tinto would barge up to 20mtpa of coal, significantly reducing the upfront capex of the Benga and Zambeze projects. In order to lift production we now expect Rio Tinto will pursue its own port and rail solution, with a site north of Chinde already identified. The additional investment in infrastructure has delayed the production ramp up at Benga and the development of Zambeze by three years."</p> <p>"Recent media reports suggest Rio Tinto and Vale are considering an infrastructure sharing agreement in Simandou and we believe a similar deal would make sense in Mozambique."</p> <p>"Rio Tinto has downgraded reserves by 38% and resources by 80% for the Benga and Zambeze projects. Prior to the acquisition, Riversdale Mining declared reserves at Benga of 502mt and resources of 4bt for Benga and 9bt for Zambeze. We suspect Rio Tinto had factored in a reduction in resources at the time, however the quantum is much greater than we expected."</p> <p>"Our valuation for the Benga and Zambeze projects has fallen by ~36%, the bulk of which is a reduction in Benga to reflect a slower production ramp-up and the downgrade to reserves. The reduction in Zambeze is less severe as a more aggressive ramp up of the project in the medium-term offsets much of the up-front delay. Despite the downgrades our combined valuation for both projects still exceeds the US\$3. 7b price Rio Tinto paid for Riversdale Mining although the valuation upside to the acquisition price is now only 18%."</p> <p>"To estimate the amount of additional capex required to complete a greenfields port and rail development we have assessed a number of recent and planned developments in Africa. Our estimates suggest that Rio Tinto will need to spend around US\$2.5b on port and rail, with a further US\$2.0b on mine development over the next 5-6 years to achieve our production forecasts."</p>
[62]	4/11/2012 ^d	MERRILL LYNCH	Aluminium update via Alcoa: supply deficits remain	<p>[Table 2 RIO - financial summary page]</p> <p>"Asset Valuation: Riversdale Mining: 2010A 2,731 US\$M, 2011A 4,533 US\$M, 2012F 5,011 US\$M."</p> <p>"Production: Coal - Riversdale Mining 2012F 1mt, 2013F 3 mt, 2014F 5 mt, 2015F 6mt."</p>
[63]	4/17/2012	MERRILL LYNCH	Soft Q1 but look for a strong finish to 2012. Maintain BUY.	"Mozambique's Benga mine –timing on first HCC shipment from port has slipped to middle of Jun Qtr (was end of Mar Qtr previously)."
[64]	4/17/2012	DEUTSCHE BANK	1Q12 - tough operating conditions	"Coal - hard coking and thermal production slightly weaker: ... We also note another delay to first shipments from Mozambique (to mid 2Q)."
[65]	4/18/2012	MORGAN STANLEY	1QCY12: Guidance light, but fundamentals remain intact	<p>"Key Risks: ... Political risks in key operations and projects, such as the Benga Mine."</p> <p>"First production from Benga in Mozambique was processed through the wash-plant in February, with final plant commissioning near completion. The product is expected to be sent to port via rail at the end of April, with first HCC shipments from Benga due in the middle of 2QCY12."</p>

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[66]	4/18/2012	CREDIT SUISSE	Q1 production	[Figure 6 Key Projects: Mozambique Coal] "Production from 2015 at 3mtpa expanding to 20mtpa over time using river barging and transloaded to an offshore loading facility. River barging and expanded infrastructure from 2016 - capacity of 40mtpa to be shared btw all producers in the Tete coal province. CS estimates."
[67]	4/24/2012	DEUTSCHE BANK	The Big 5	<p>[Base Case NPV for RTCM is US\$3.839 billion; with 20% higher capex, NPV is \$2.749 billion]</p> <p>"We also note that Rio Tinto is trading at a level equivalent to a zero growth valuation. i.e. we calculate that there is no value reflected in the share price for these compelling growth projects. This value gap represents a significant opportunity for investors, in our view."</p> <p>"The biggest hurdle to ramping up production will be the significant investment in infrastructure due to limited rail and port capacity and the likely tie-up with Vale, and the risk around potential government ownership in the project."</p> <p>"The company's growth strategy is now focused on expanding in the Pilbara, expanding select aluminium, copper and energy assets in OECD countries, and pushing into Africa through the development of Simandou, Mozambique coal and other projects such as Madagascar ilmenite."</p> <p>"Post our review of the five Mega projects (extensive review of our assumptions), we value Rio at A\$104.33/sh, of which c. 30% is attributable to the Pilbara expansion beyond 230Mtpa, Simandou, Oyu Tolgoi and Mozambique coal on an un-leveraged basis (Figure 2). This suggests to us that the market is factoring in very little value for these projects currently. In fact stripping out these projects reduces our NPV to c. A\$75/sh, which is roughly 10% above the current share price. Considering the Pilbara expansions could generate +20% IRRs and break even at c. US\$50/t iron ore (long-run, CIF), the market is paying little for Rio's compelling growth."</p> <p>[Figure 2: Valuation contribution of the Mega Projects (%)] "Mozambique Coal: 3%"</p> <p>[On Riversdale infrastructure development]: "However Rio Tinto has extensive experience in developing major mines, rail and port (in the Pilbara), which can be transferred to Guinea and Mozambique (with the help of Chinalco and Chinese engineering firms)"</p> <p>"Mozambique coal – This project represents the largest risk in our view of the 5 projects. The infrastructure solution remains unclear – as coking coal is a bulk commodity, infrastructure is the key requirement. In particular, control over the infrastructure or pricing is paramount or the project risks losing the rent to those that do control the infrastructure."</p> <p>"However we assume no sharing on the infrastructure (likely with Vale) in our base case model and no barging of coal down the Zambeze."</p>
[67]	4/24/2012	DEUTSCHE BANK	The Big 5 (continued)	<p>"The rail and port development is the critical path considering that the Government of Mozambique recently rejected Rio's proposal to barge coal down the Zambeze to the Chinde (north of the port of Beira) due to environmental concerns. The [sic] complicate things further, the government has also stated that it prefers a multi-user development option on all coal rail and port, implying that Rio will likely have to share rail and port with Vale."</p> <p>[Figure 14: Economics of the Mega Projects] "Mozambique Coal: NPV 3,839, IRR 12.3%, Capacity: 16Mtpa coking, 26Mtpa thermal."</p> <p>"Riversdale outlined a 13bt resource at Benga and Zambeze... However Rio Tinto, using more conservative assumptions (probably lower long run coal prices), has restated the coal resources and reserves to 2.6bt and 241Mt respectively. Despite the downgrade, Rio Tinto has stated that the magnitude of the first time published numbers is 'consistent with our original estimates that were calculated during the due diligence studies.' Either way, the restated resources will potentially support the likely 20Mtpa Benga and 40Mtpa Zambeze operations for over 30yrs and likely over 50yrs."</p> <p>[Estimated annual production: 26.0 Mtpa coking coal and 16.0 Mtpa thermal coal or ~62% coking coal]</p> <p>"First capex guidance on Mozambique coal (for Benga Stage 2 and Zambeze) will unlikely be provided in CY12, and we expect the feasibility on an expansion of Benga, development of Zambeze, and rail and port to be completed in CY14."</p>

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[68]	5/23/2012	REDBURN	Any Old Iron?	"Political Risk... Oyu Tolgoi phase 1 and Benga phase 1 (Mongolia and Mozambique) add to the perception of Rio Tinto's growing geopolitical risk, but these account for just 3% of our medium- and long-term EBITDA forecasts." "Growth beyond phase 1 for Oyu Tolgoi and Benga phase 1 in Mozambique is not sanctioned and not included in our valuation work." "Fig 34: Rio Tinto Projects included in ... valuations: Benga Phase 1 - Coking Coal - EBITDA basis capex 0.2 US\$bn, 0.1 EBITDA basis capex FY12 onwards."
[69]	7/5/2012	SOCIÉTÉ GÉNÉRALE	Statistical modelling and near-term catalysts indicate Rio Tinto should outperform BHP B	"Benga coal project: Rio Tinto expects to ship 1.7mtpa of coal (primarily hard coking) from Benga in 2013. The company shipped its first export cargo of 34kt on 25 June. Most analysts seem to assign little or no value to Rio Tinto's Riversdale projects. It may be because the company has been comparatively less proactive in providing updates on its progress and had provided limited details on cost of production, etc. As the operations at Benga stabilise, we expect Rio Tinto to provide more details on the project so the analyst community can model it correctly." "We think Rio is better placed with regard to immediate growth and project execution. Two of Rio Tinto's key projects - Oyu Tologi and Benga - are close to production start-up. As these projects stabilise, we think their value should be more fully reflected in Rio Tinto's share price."
[70]	7/17/2012	DEUTSCHE BANK	2Q12 - production rebounds, all key projects on track	"This quarter also saw Rio's Benga mine export its first coal shipment. Benga is currently being commissioned; with first commercial production slated in 3Q CY12. We estimate the 0.6Mt (Rio share) for the next quarter."
[71]	7/17/2012	UBS INVESTMENT BANK	Rio Tinto Limited Production in line. Iron ore sales below	"On 25 June 2012, Rio Tinto announced that it had exported its first shipment of premium hard coking coal from its Benga Mine in the Moatize Basin in Mozambique. During Q2, Rio Tinto Coal Mozambique produced 123kt of thermal coal (80kt attributable) and 130kt of hard coking coal (85kt attributable) at Benga. As the mine is in the commissioning phase, costs net of revenues have been capitalised. Benga is expected to move to commercial production during the third quarter of 2012."
[72]	7/23/2012	MORNINGSTAR INC.	Rio Tinto Reins in its 2012 Copper Target	"Elsewhere the first shipment of hard coking coal from the Benga Mine in Mozambique was made."
[73]	7/24/2012	MERRILL LYNCH	\$555 mn for Moz coking coal	"In 2011, Rio spent about US\$4 bn buying Riversdale. RIV's Benga and Zambeze projects could eventually produce some 20-25 Mtpa i.e. a multiple of expected output of Revuboe. Rio's EV/t resource paid was comparable to what Anglo is paying i.e. <US\$1/t of resource. In our view, however, unlike gold, we think that EV/resource figures for bulk commodity projects are less useful since project specifics (in particular infrastructure) can very much influence NPV and thus value creation."
[74]	7/25/2012	CITIGROUP INC	BHP BILLITON, RIO TINTO & NEWCREST MINING	"Acquired through the acquisition of Riversdale Ltd. RIO has stated that it continues to work with the Government of Mozambique to secure the development of infrastructure for efficient transport of coal from mine to port." "RIO has ~14% of Citi's valuation in three assets in very high risk countries – Mozambique (Benga / Zambeze coal), Indonesia (Grasberg), and Guinea (Simandou)." "In February 2012, NGO Southern Africa Resource Watch published a report on Rio Tinto's coal operations in Mozambique, partly related to the previous owner (Riversdale). Concerns included the resettlement of communities before housing construction work was finalized and basic services such as water and electricity were put in place, and also claims that people had been moved too far away from the mine, depriving them of job opportunities and other benefits associated with the development of the mine." "In recent conversations, RIO explained that the government is leading the resettlement program, but that RIO is working actively on the ground in Mozambique, with the objective of helping the community to establish sustainable livelihoods." [Citi attributes 4.3% of total NPV to Benga and Zambeze]

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Post-HY 2012 Earnings Release: August 23, 2012 through October 15, 2012			
[75]	8/23/2012 ^e	MERRILL LYNCH	RIO site visits: Nth America Cu, Fe & TiO ₂ ; Aust. Cu: a Primer
			[Table 5: Rio - Financial Model Summary] "Asset Valuation: Riversdale Mining: 2010A 2,870 US\$m, 2011A 4,684 US\$m, 2012F 5,177 US\$m, 2013F 5,768 US\$m, 2014F 6,179 US\$m." "Production: Coal - Riversdale Mining: 2012F 0.92mt, 2013F 2.791mt, 2014F 4.74mt."
[76]	8/30/2012	CHARLES STANLEY & CO. LTD.	Rio Tinto H1 results (8 August) fair. Accumulate.
			"The first export shipment of premium hard coking coal from the Benga mine in Mozambique was made at end-June, although actual production amounted to 123k tonnes of thermal coal and 130k tonnes of hard coking coal. Benga is expected to move to commercial production in Q3 2012."
[77]	9/13/2012 ^f	MERRILL LYNCH	Day1: Utah Copper, OC/UG LOM, MAP, NuWave, Tunnelling
			[Table 1: Rio Tinto financials] [EBIT Breakdown] "Riversdale Mining: 2012F 13 US\$m, 2013F 122 US\$m." [Asset Valuation] "Riversdale Mining: 2010A 2,870 US\$m, 2011A 4,684 US\$m, 2014F 6,179 US\$m, 2015F 6,513 US\$m."
[78]	9/18/2012 ^f	MERRILL LYNCH	Day 4 NA site visit IOC: preparing for sale?
			[Table 1: Rio Tinto financials] [EBIT Breakdown] "Riversdale Mining: 2012F US\$m 13, 2013F US\$m 122." [Asset Valuation] "Riversdale Mining: 2010A 2,870 US\$m, 2011A 4,684 US\$m, 2014F 6,179 US\$m, 2015F 6,513 US\$m."
Post 3rd Quarter Operations Review Report: October 16, 2012 through November 28, 2012			
[79]	10/16/2012	CANACCORD GENUITY	Iron ore volumes up substantially
			"Overall guidance from management for the operations is similar to 2Q... Finally, the Mozambique coal operations contributed substantially larger volumes than we expected in its first quarter of operation."
[80]	10/16/2012	COWEN SECURITIES	Rio Tinto 3Q12 Production Takeaways
			"Met coal production at Benga (Mozambique) was in line with our estimates, and thermal coal production was higher than expected, as the site continues to ramp up."
[81]	10/16/2012	NOMURA INTERNATIONAL (HONG KONG) LTD	Delivering, yet remains leveraged to steel; Solid Q3 in line, growth still to come. Offers value despite reduced 2013 expectations.
			"In Mozambique, production continues to ramp up with the railway being the key bottleneck. 2012 guidance is unchanged at 8.5Mt."
[82]	10/17/2012	MACQUARIE RESEARCH	MACQUARIE RESEARCH
			"First commercial production was also reported from Benga, where work on the Sena railway continues."

Appendix C.7
Commentary from Equity Analysts' Reports Regarding RTCM Valuation, Infrastructure, or Resources
November 26, 2010 through January 16, 2013

	Date	Contributor	Headline	Commentary
[83]	11/12/2012	UBS INVESTMENT BANK	More than just an iron ore story	<p>"The initial target when Rio acquired Riversdale was 2020, though it is now expected to take longer given infrastructure challenges (albeit there is potential to team up with others, e.g. Vale), other capex commitments and lower met-coal prices."</p> <p>"The key challenge for Rio's Mozambique coal projects is the lack of infrastructure and securing government support. Rio Tinto will have to build a new rail line as well as a new port to materially increase coal production; it may look to partner potentially the government and/or another coal mine licence holder such as Vale or ENRC. Rio Tinto initially considered barging c3mt of coal down the Zambezi, but the Mozambique government has expressed environmental concerns about this."</p> <p>"In H1 12, Rio Tinto Coal Mozambique produced 123kt of thermal coal (80kt attributable) and 139kt of hard coking coal (85kt attributable) at Benga. Benga started commercial production in H2-12. The medium-term plan (2020-25) is to increase production to 25Mtpa of coking coal, and potentially to >100Mtpa longer-term – all market-dependent."</p> <p>"The initial target when Rio acquired Riversdale was 2020, though it is now expected to take longer given infrastructure challenges (albeit there is potential to team up with others, e.g. Vale), other capex commitments and lower met-coal prices."</p> <p>[Benga production target]: "6 mt of hard coking coal and 4mt of thermal coal (20 mt ROM)"; [Zambeze production target]: "10 mt of hard coking coal and 6 mt of thermal coal by 2018 (ROM 40 mt)"</p>
[84]	11/26/2012	RENAISSANCE CAPITAL	Global Rio Tinto - BUY ... but 'cheaper' for a reason	<p>"We believe the investment decisions (outside iron ore) post the GFC have been mixed at best, with the Riversdale acquisition value-destructive."</p> <p>"But the history post Alcan on acquisitions has not been great, given the low to negative NPVs generated from investments such as Riversdale and Oyu Tolgoi... [T]his implies higher investment risk on a relative basis, for which investors are not being compensated, in our view."</p> <p>"The lack of a logistics solution makes estimating timing, capex and potential external tariffs more challenging... [W]e believe Rio's Mozambique coal options could generate acceptable IRRs."</p> <p>"Although infrastructure delays are likely to erode the NPV on the \$4bn spent acquiring Riversdale in 2011, in light of Rio's capex commitments elsewhere in the next two-to-three years, delays in the development of infrastructure may not be a bad thing for Rio, in our view, as it is likely to have greater capacity to allocate capex to Mozambique post 2014."</p> <p>"We view the acquisition of Riversdale as a poor one."</p> <p>"Despite our bullish long-term coking coal price assumptions, we do not think Rio will make a positive IRR from entering Mozambique at 10% nominal, never mind a more appropriate 15%."</p> <p>"In our view, the Sena rail line is unlikely to take more than 10mnt of coal annually, and then only in a few years; Rio is unlikely to secure more than 3mnt of that. Therefore, we think any expansion from the current ~2mnt of production would be dependent on securing additional rail capacity."</p> <p>"We value Rio's coal assets in Mozambique at \$1.6bn, given our supportive view for HCC pricing and applying only a 10% nominal cost of capital"</p> <p>"We remain confused as to why Rio, having narrowly escaped the GFC, decided that Riversdale should be its first significant investment post the crisis."</p>
Post-November 2012 Investor Seminar: December 13, 2012 through January 14, 2013				
I did not identify any relevant reports published during this period.				
Post 4th Quarter Operations Review Report production report on January 15, 2013 through January 16, 2013				
[85]	1/15/2013	CANACCORD GENUITY	Production tracking as expected	"The Mozambique ramp up continued faster than expected."

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November 26, 2010 through January 16, 2013

	Date	Contributor	Headline	Commentary
[86]	1/15/2013	CGS-CIMB / CIMB RESEARCH	4Q12: no surprises	"However, we note that near term the company has flagged: 1) the conclusion of its review of the Gove alumina refinery by end of January 2013; and 2) the possibility of write-downs at the February 2013 result. In our view, this is the case particularly for the aluminium and coal (Mozambique) businesses."
[87]	1/15/2013	CITIGROUP INC	A case of positives and negatives; minimal impact on earnings	"Benga ramp-up and recovery from wet weather is expected to drive a ~40% increase in 2013 production, with thermal coal up a more modest 14%."
[88]	1/15/2013	DEUTSCHE BANK	4Q12 - Production set to increase 8% after a flat year	"In Mozambique, production from Benga equated to a run-rate of 1.6Mtpa which is in-line with guidance of 1-2Mtpa however we expect this operation to be loss making at current coal prices."
[89]	1/15/2013	NOMURA EQUITY RESEARCH	Rolling start in 2013	"Coking coal – production for 2012 at 8.0Mt lagged expectations 8.6Mt and guidance of 8.5Mt. Lower volumes reflected the impact of both the shutdown at Kestrel and slower ramp-up from Benga."
[90]	1/16/2013	SHAW STOCKBROKING	Rio Tinto Limited (RIO) Preferred Diversified Resource Company	"During the quarter, production at the Benga mine in Mozambique continued to ramp up. Studies are progressing to expand capacity on the Sena railway line."

Notes and Sources:

This appendix summarizes analysts' reports published between November 26, 2010 and January 16, 2013 that were produced in discovery, provided by Rio Tinto, or identified in a keyword search of reports on the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group, or identified in a search of reports on the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group during four event periods. The keywords I used for the keyword search were Riversdale, Mozambique, Tete, Moatize, RTCM, Zambeze, Zambezi, barging, or barge. The four event periods were: Acquisition (November 26, 2010 to January 6, 2011), HY 2012 Earnings Release (August 1-22, 2012), November 2012 Investor Seminar (November 22, 2012 to December 12, 2012), and Pre-Impairment Disclosure (January 10-16, 2013). To compile the reports summarized in this appendix, I followed the following steps:

(i) From the list of analysts' reports produced in discovery, provided by Rio Tinto, or identified in my searches of the Capital IQ and Thomson ONE platforms, I removed duplicate reports where duplicates were defined as (a) a report with the same Contributor, Date, Headline, and Number of Pages as another report, (b) a report with the same Contributor, Date, and number of Pages as another report, but no Headline, or (c) a report within one day of another report with the same Contributor, Headline, and Number of Pages. If duplicate reports had different prices, I removed the more expensive report. If duplicate reports had different Dates (per criteria (b) above), I removed the report with the earlier Date.

Appendix C.7
Commentary from Equity Analysts' Reports Regarding RTCM Valuation, Infrastructure, or Resources
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Date	Contributor	Headline	Commentary
			(ii) I excluded reports from News Bites Pty Limited, Marketline, Riskmetrics, Thomson Streetevents, Eva Dimensions, Wright Investors Service, Globaldata, and Sadif-Investment Analytics SA because I found that they either were not analysts' reports or did not provide analysts' commentary on company events.
			(iii) Of the remaining reports, I selected one report per contributor per day. To do so, I first identified additional duplicates by removing "Ltd," "plc," "Plc," "Limited," "Rio.L," or "Rio.AX" from the headline. For each Date and Contributor, if there was a report produced in discovery or provided by Rio Tinto available, I selected that report. If there was a longer report also available for that Contributor and Date, that report was also selected, resulting in two reports for that Date. If no reports were produced in discovery or provided by Rio Tinto for a Date and Contributor combination, I selected the report with the greatest Number of Pages. If there were multiple reports with the same Number of Pages, I selected the least expensive report.
			(iv) I then excluded reports published in the period August 8, 2012 to August 22, 2012 that are included in Appendix C.11 and reports published in the period November 29, 2012 to December 12, 2012 that are included in Appendix C.12 to avoid duplication, as explained in notes [a] and [b], below.
			After reviewing the 440 reports produced by following this process, I found that 30 reports were duplicates of other reports and one was in French. Removing these, I identified 100 reports that discuss: (i) the valuation of RTCM or its impact on Rio Tinto's overall valuation, (ii) infrastructure solutions for RTCM, or (iii) RTCM's resource quality or quantity.
[a]			I exclude reports published following the HY 2012 Earnings Release (between August 8, 2012 and August 22, 2012) that discuss the HY 2012 Earnings Release as these reports are summarized in Appendix C.11 . Note that I did not identify any reports published between August 8 and 22, 2012 that do not discuss the HY 2012 Earnings Release but do discuss RTCM's valuation, infrastructure, or resources.
[b]			I exclude reports published following the November 2012 Investor Seminar (between November 29, 2012 and December 12, 2012) that discuss the November 2012 Investor Seminar as these reports are summarized in Appendix C.12 . Note that I did not identify any reports published between November 29, 2012 and December 12, 2012 that do not discuss the November 2012 Investor Seminar but do discuss RTCM's valuation, infrastructure, or resources.
[c]			There is one other Deutsche Bank report dated September 23, 2011 that provides similar, but not as extensive, commentary about RTCM as the September 21, 2011 Deutsche Bank report.
[d]			There were four other Merrill Lynch reports dated April 3, 2012, April 23, 2012, May 1, 2012 and May 16, 2012 that offered the same RTCM production forecast as the April 11, 2012 report and did not provide any other commentary about RTCM.
[e]			There were three other Merrill Lynch reports dated September 5, 2012, October 10, 2012, and October 16, 2012 that offered the same RTCM production forecast as the August 23, 2012 report and did not provide any other commentary about RTCM.
[f]			There were two other Merrill Lynch reports dated September 14, 2012 and September 18, 2012 that offered the same RTCM EBIT breakdown and asset valuation as the September 13, 2012 report and did not provide any other commentary about RTCM.

Appendix C.8
Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures on January 17, 2013
January 17, 2013 through January 31, 2013

	Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[1]	1/17/2013	BMO CAPITAL MARKETS	Write Off of US\$14B; CEO Tom Albanese Steps Down	Overall		"Write Off of US\$14B; CEO Tom Albanese Steps Down"
[1]	1/17/2013	BMO CAPITAL MARKETS	Write Off of US\$14B; CEO Tom Albanese Steps Down	Management Change	0	"Sam Walsh, previously iron ore chief executive and hence responsible for most of the company's earnings, takes over as CEO from today. BMO notes that post the disastrous Alcan acquisition, Mr. Albanese had provided a steady hand in guiding Rio Tinto in more recent years with the company performing better than many of its peers in terms of capital allocation. "
[1]	1/17/2013	BMO CAPITAL MARKETS	Write Off of US\$14B; CEO Tom Albanese Steps Down	RTCM	-	"Additionally, the company has reported a US\$3B write off relating to infrastructure and coal recovery challenges at Rio Tinto Coal Mozambique, equivalent to US\$1.60/share. BMO currently values the Mozambique coal assets at US\$5.3B, which may well need to be reexamined. "
[1]	1/17/2013	BMO CAPITAL MARKETS	Write Off of US\$14B; CEO Tom Albanese Steps Down	Alcan	0	"Alcan accounts for a majority US\$10-11B of the write off, which takes total Alcan impairments to some US\$30B, or three quarters of the original US\$39B acquisition cost."
[1]	1/17/2013	BMO CAPITAL MARKETS	Write Off of US\$14B; CEO Tom Albanese Steps Down	Iron Ore Price	0	"RIO's price performance is subject to global demand for its key commodities (iron ore, aluminum, copper, coal) and foreign exchange rates (mainly AUD and CAD)."
[2]	1/17/2013	MERRILL LYNCH	\$14 bn write-downs, CEO change. Not great...	Overall		"We do not expect the writedowns to be taken well by the market."
[2]	1/17/2013	MERRILL LYNCH	\$14 bn write-downs, CEO change. Not great...	Management Change	0	"We believe, Mr. Walsh will be seen as a safe pair of hands."
[2]	1/17/2013	MERRILL LYNCH	\$14 bn write-downs, CEO change. Not great...	RTCM	-	"[C]oal [write-down] a negative surprise " "[T]he write-down on Riversdale (coking coal) is more of a disappointment in our view... Key negatives since the deal was completed: The resource base was reexamined and downgraded...trouble getting permission to barge coal. We are left wondering whether we need to factor in project delays and capex over-runs and expect more details with FY results. To the extent this is the case, this would end up being a downgrade to our NPV . As a sensitivity, a US\$1 bn capex overrun would negatively affect our DCF/sh by roughly GBp33p/A\$0.50. "
[2]	1/17/2013	MERRILL LYNCH	\$14 bn write-downs, CEO change. Not great...	Alcan	0	"[T]he aluminum write-down is somewhat expected & part of [a] 6 year 'hangover' related to the acquisition of Alcan (aluminum) at the peak of the cycle in 2007"
[2]	1/17/2013	MERRILL LYNCH	\$14 bn write-downs, CEO change. Not great...	Iron Ore Price	N/A	N/A

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[3]	1/17/2013	CITIGROUP INC	Upgrade to Buy on Management Changes and Impairments	Overall		"[U]pgrade to Buy" "We believe the market will perceive today's write-downs and management changes negatively in the short term, but that these will be positive for the stock and the sector longer term. "
[3]	1/17/2013	CITIGROUP INC	Upgrade to Buy on Management Changes and Impairments	Management Change	+	"We rate Rio Tinto Buy as we believe the recent management changes along with substantial impairments should result in long-term positives."
[3]	1/17/2013	CITIGROUP INC	Upgrade to Buy on Management Changes and Impairments	RTCM	-	"Rio Tinto today announced a non-cash post-tax impairment charge of around \$14 billion, including around \$3 billion related to Rio Tinto Coal Mozambique"
[3]	1/17/2013	CITIGROUP INC	Upgrade to Buy on Management Changes and Impairments	Alcan	-	"Though Rio had indicated the potential for write-downs in aluminium during its investor day in Sydney in November 2012, the size of write-downs will have taken the market by surprise, in our view. "
[3]	1/17/2013	CITIGROUP INC	Upgrade to Buy on Management Changes and Impairments	Iron Ore Price	+	"The strong iron ore price rebound from <\$90/t in 3Q 2012 to >\$150/t is also very helpful for Rio as iron ore represents 70-80% of group earnings."
[4]	1/17/2013	CREDIT SUISSE	Handing over to a steady set of hands, write-downs inline with valuation	Overall		"No change to our valuation or TP £40/\$75/share."
[4]	1/17/2013	CREDIT SUISSE	Handing over to a steady set of hands, write-downs inline with valuation	Management Change	0	"New CEO well known: Sam Walsh has been with Rio Tinto since 1991 and head of iron ore since 2004 since which time iron ore profits have increased 15x (price helping of course!) but more importantly he has overseen a near doubling of iron ore production from 107mt to 198mt (attributable) and is responsible for the major Pilbara iron ore expansion from 220mtpa to 360mtpa by 2015 (100% basis) (\$22bn) all of which is on budget & schedule." "Given the current investment case for Rio Tinto is iron ore focused investors and the market should be comfortable and familiar with new leadership ahead. Sam Walsh is a shorter term CEO. His job will be to steady the ship, drive out costs and see through the current growth projects in iron ore, Australian coal (latent capacity) and Oyu Tolgoi."
[4]	1/17/2013	CREDIT SUISSE	Handing over to a steady set of hands, write-downs inline with valuation	RTCM	-	"Total impairment expected to approximate \$14bn (post tax) of which \$3bn relate to Mozambique (BV \$3.4bn, CS value \$1.5bn) and aluminium (BV \$27bn, CS approx. \$12bn). Given our valuations for these assets, write-downs would have been expected sometime in years ahead but the year-end audit process seems to have brought forward. We see the Mozambique coal write-down as the lesser anticipated of the two. " "In the release, Rio said that in Mozambique, the development of infrastructure is proving challenging than anticipated. The barging option did not get its formal approvals. This plus a downward revision to coking coal reserves/resources have led to a reassessment of the overall scale and ramp up schedule and hence the impairment. In our model, we carry a valuation of \$1.5bn for Mozambique coal."

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	Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[4]	1/17/2013	CREDIT SUISSE	Handing over to a steady set of hands, write-downs inline with valuation	Alcan	0	"Aluminium (total) net operating assets, June 2012: \$26,925bn and our valuation \$11,198bn so while this move is a surprise, it's also not a surprise as its just bringing the carrying value back in line with market based valuations."
[4]	1/17/2013	CREDIT SUISSE	Handing over to a steady set of hands, write-downs inline with valuation	Iron Ore Price	0	"View: look through the noise: After the market digests this news we think the focus should remain on iron ore prices, project delivery and the larger macro picture, all which remains unchanged following today's announcement especially given current head of iron ore (80% of earnings / 65% NPV) takes over as CEO, share price pressure should be seen as buying opportunity." "... the current investment case for Rio Tinto is iron ore focused..."
[5]	1/17/2013	DEUTSCHE BANK	Capital allocation held to account	Overall		"US\$14b is a larger write-down than expected, but in line with valuation." "Rio announced in its November strategy review that year-end carrying value reviews would likely result in asset value revisions - US\$14b is more than expected so soon." "Today's rapid Board response to a second misallocation of capital (Riversdale after Alcan) is the first step in this change in our view with very clear message that capital spending will be subject to increased scrutiny"
[5]	1/17/2013	DEUTSCHE BANK	Capital allocation held to account	Management Change	+	"Sam Walsh (Iron Ore CEO) has been announced as CEO successor. Somewhat long-awaited , this heralds the potential for a further improvement in capital allocation." "Sam Walsh is a good CEO replacement in our view ; he is already on the board, and accountable for the largest part of Rio's earnings and growth. We expect him to deliver a series of positive announcements in coming months including; early delivery on iron ore growth, the Oyu Tolgoi Ramp-up and details on the cost out program."
[5]	1/17/2013	DEUTSCHE BANK	Capital allocation held to account	RTCM	-	"The US\$3b Coal Mozambique write-down will bring this valuation to around US\$0.4b, under our previous US\$1.3b valuation . We have extended the time line on this project based on the comments today (now US\$0.37b)." "A key issue for Rio appears to have been its desire to replicate its Australian infrastructure in Africa, this has not been possible in Guinea with the Simandou project and now appears not to be possible in Mozambique. As a result of this release, we have pushed our expectations for the Mozambique development in next decade which has lowered our NPV to US\$0.37b." "While we highlighted infrastructure development as a key risk, we took the view that the company would be able manage the issues. In today's announcement, the company states that this is not the case"
[5]	1/17/2013	DEUTSCHE BANK	Capital allocation held to account	Alcan	0	"US\$10-11b from aluminium will lower its carrying value from US\$30.5b to ~US\$19b – in line with our valuation of US\$18.2b . While the writedown is big, it is worth remembering that the division...include[s] world class assets including Alma, ISAL, QAL, Weipa and Sohar among others."

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[5]	1/17/2013	DEUTSCHE BANK	Capital allocation held to account	Iron Ore Price	0	"Key risks to our view include movements in iron ore, copper, coal and aluminium prices away from those that we currently forecast and a significantly different A\$ than we currently assume a 10% change in iron ore price could lead to ~9% change in earnings for Rio Tinto specifically, on our estimates."
[6]	1/17/2013	GOLDMAN SACHS	Valuation driven by the iron ore price, not writedowns and CEO	Overall		" The write-downs and management changes do not impact our estimates or valuation of Rio. " "Valuation driven by the iron ore price, not writedowns and CEO"
[6]	1/17/2013	GOLDMAN SACHS	Valuation driven by the iron ore price, not writedowns and CEO	Management Change	0	"There is perhaps a risk with three senior management figures leaving in short order , and the chief executive of the most important division stepping up to group CEO, that there will be a talent shortfall. " " [T]he departure of Mr. Ritchie is not a surprise to us , as he was directly responsible for the Riversdale transaction." "We believe that the likely impact of today's announcement will be a greater focus on capital management and shareholder returns in the sector, which would be viewed favourably by investors we believe."
[6]	1/17/2013	GOLDMAN SACHS	Valuation driven by the iron ore price, not writedowns and CEO	RTCM	0	" In our view, investors were not attributing significant value to the aluminium business and Mozambique coal, while a poor acquisition, is ultimately small for Rio. " "Perhaps more surprising is the early write-down of 75% of the Riversdale acquisition (US\$4 bn completed in May 2012), less than 12-months after being finalised."
[6]	1/17/2013	GOLDMAN SACHS	Valuation driven by the iron ore price, not writedowns and CEO	Alcan	0	"While further write-downs in aluminium are not really that surprising to us, the size of the write-down is. We estimate that write-downs in aluminium since the US\$38 bn Alcan acquisition in late-2007 are now approaching US\$30 bn."
[6]	1/17/2013	GOLDMAN SACHS	Valuation driven by the iron ore price, not writedowns and CEO	Iron Ore Price	-	"We believe that movement of the iron ore price is more critical to short-term share price movements. And we expect the next move in the iron ore price to be down as we head into the Chinese new year. As a result, we would expect some underperformance from the shares over the next two months, but not as a result of today's news. " "Key risks Higher / lower iron ore price." "Iron ore price is highly correlated with Rio's share price and is at a high level"
[7]	1/17/2013	HSBC	USD14bn in write-downs and a new CEO	Overall		"The write-downs of USD14bn exceed our estimates of attributable profit (USD8.4bn) and will result in a headline loss for 2012, but not at the underlying earnings level, and have no impact on the future earnings stream on which we value the company. " "The revision to book values is not material to our valuation, as we value on future cash flows (as does consensus)...This is likely to be the end of write-downs for these assets." "[T]his change looks like bringing the book value closer to our own valuation, and is unlikely, in our view, to lead to major changes to consensus estimates. "

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	Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[7]	1/17/2013	HSBC	USD14bn in write-downs and a new CEO	Management Change	0	"We do not think the market will be uncomfortable with this change and Tom Albanese has been at the helm for over five years, longer than the average tenure of a FTSE100 CEO." "Sam Walsh is known to the market, having such a prominent position within RIO, and we view him as a very safe pair of hands. It's a little surprising to see both CEO and CFO change in the same year (CFO Guy Elliot has previously flagged he will retire during 2013), although RIO has significant bench strength and good succession planning."
[7]	1/17/2013	HSBC	USD14bn in write-downs and a new CEO	RTCM	0	" We have never incorporated Mozambique into our earnings estimates. " "Rio will also write down the value of its Mozambique coal assets by USD3bn. Given that RIO bought these assets for USD5bn in a hostile acquisition of Riversdale Mining in 2011, this is a more recent and arguably embarrassing correction. The reason highlighted for the write-down was a lack of formal approvals for the movement of coal along the Zambezi river by barge and a revision to estimates of recoverable coking coal volumes. We have never incorporated Mozambique assets into our earnings estimates, as we have been unsure of the development path. " "It is unclear whether the revision to recoverable volumes was a market driven or technical revision of reserves, but in either case this is unusual. "
[7]	1/17/2013	HSBC	USD14bn in write-downs and a new CEO	Alcan	0	"Aluminum write-down: A write-down of USD10-11bn (post tax) is not material to our valuation... We, similar to consensus, value mining stocks on future cash flows rather than book values – this change looks like bringing the book value closer to our own valuation, and is unlikely, in our view, to lead to major changes to consensus estimates. "
[7]	1/17/2013	HSBC	USD14bn in write-downs and a new CEO	Iron Ore Price	0	"[P]rice expectations for iron are growing and an unexpected drop in spot prices could lead the stock to underperform the market and its peers"
[8]	1/17/2013	JEFFERIES LLC	Changing of the Guard	Overall		"Investment Case is Unchanged." "While the impairment charges are negative following some disappointing past acquisitions, we believe the Rio investment case remains firmly intact and recommend investors accumulate shares on any near-term weakness." "While the market's initial reaction to this news has been negative (coinciding with a recently declining iron ore price), we believe the investment case for Rio remains firmly unchanged and intact. " "Rio remains one of the most attractively valued miners in our coverage at a 2013E P/E of 9.3x versus the sector average at 11.0x , and is one of our top picks for 2013. "
[8]	1/17/2013	JEFFERIES LLC	Changing of the Guard	Management Change	0	"In our view, Walsh is a highly credible successor and is well-regarded across the industry. " "Notably, the departure of both Albanese and Ritchie combined with the retirement of CFO Guy Elliott, who will step down from his post at the end of 2013, marks a changing of the guard at Rio."
[8]	1/17/2013	JEFFERIES LLC	Changing of the Guard	RTCM	0	N/A

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	Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[8]	1/17/2013	JEFFERIES LLC	Changing of the Guard	Alcan	0	"Rio acquired Alcan in a US\$38bn acquisition in 2007, shortly before the global financial crisis began to unfold. Since then, it has written down a staggering \$25bn of the price paid."
[8]	1/17/2013	JEFFERIES LLC	Changing of the Guard	Iron Ore Price	0	"While near-term negative momentum in the iron ore price is not helpful, there was never a reason to believe a price above \$130 per tonne would be sustainable. We would not be overly focused on short-term iron ore price volatility when evaluating Rio Tinto for the long-term. " "Rio's already low operating costs... and combined with declining capex should lead to growing free cash flow even as the iron ore price falls."
[9]	1/17/2013	JP MORGAN	CEO steps down, but \$14bn of writedowns are less of a surprise - ALERT	Overall		"RIO remains our preferred pick in the sector" "Therefore we regard share price weakness as an attractive buying opportunity ahead of a more frugal future for RIO."
[9]	1/17/2013	JP MORGAN	CEO steps down, but \$14bn of writedowns are less of a surprise - ALERT	Management Change	+	"We consider Walsh's appointment reflects Iron Ore's significance (c.75% of FY13E NPAT)." "We believe the appointment of Sam Walsh, a long standing steward of iron ore, may point to a more conservative approach to M&A and cost discipline, both of which we expect will be welcomed by shareholders. This CEO change, coupled with a new CFO later in 2013, may herald a change in strategy for RIO which may be more focused on prudent capital allocation and cash shareholder returns."
[9]	1/17/2013	JP MORGAN	CEO steps down, but \$14bn of writedowns are less of a surprise - ALERT	RTCM	0	"We already value the asset at \$619m, therefore we expect negligible impact to our valuation. But we acknowledge a near full writedown within 18 months will remind shareholders of RIO's recent chequered M&A track record." "RIO's closing market capitalisation last night was \$107.7bn and at the time of writing the share price is down c.4% or c.\$4.3bn of market value lost, implying the unexpected nature of the coal impairments. "
[9]	1/17/2013	JP MORGAN	CEO steps down, but \$14bn of writedowns are less of a surprise - ALERT	Alcan	0	"Indeed, our NPV for the group's Aluminium division of \$13bn is significantly below the last reported book value of \$27bn. " "Aluminium impairment charge no[t] a surprise"
[9]	1/17/2013	JP MORGAN	CEO steps down, but \$14bn of writedowns are less of a surprise - ALERT	Iron Ore Price	N/A	N/A

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[10] 1/17/2013	JP MORGAN	Alcan overhang gone with CEO departure & \$14bn impairment charge	Overall		<p>"We confirm this morning's announced \$14bn writedown has no impact on our NPV."</p> <p>"In our view, today's impairments are backward looking, and do not reflect the future strategy of the company, or materially affect our projected cash flow."</p> <p>"In our view, the charges represent a clean out of carrying values, with further material charges unlikely medium term."</p> <p>"[W]e expected RIO to report more impairment charges at its FY12 results. We did however think the total required impairment would be staggered over several years, so the clean out today removes the overhang in our view."</p>
[10] 1/17/2013	JP MORGAN	Alcan overhang gone with CEO departure & \$14bn impairment charge	Management Change	+	<p>"We view Sam's appointment as positive for the shares; on the basis it now removes all senior executives responsible for the failed Alcan transaction, which has been an overhang since the deal was completed in 2007. This revitalization of management may encourage some investors back into the stock who exited following dissatisfaction with the deal. We also view Sam as extremely capable of running the Group, given he already controls RIO's largest division."</p> <p>"Alcan acquisition claims Chairman, CEO, and CFO - management revitalization positive."</p> <p>"Further, new management are likely to have an acute focus on capital discipline, and be much more conservative on M&A. We view this likely improvement in strategy as positive for shareholders."</p>
[10] 1/17/2013	JP MORGAN	Alcan overhang gone with CEO departure & \$14bn impairment charge	RTCM	0	<p>"In addition, a US\$3bn impairment related to the US\$3.7bn Riversdale purchase, leaves a book value (ex-goodwill) of ~US\$0.6bn which is in line with our NPV."</p> <p>"Reflects inability to barge coal down the Zambezi River, effectively constraining production to the relatively small rail capacity of 2Mtpa (already factored into our numbers), along with a resource downgrade. The book value of the assets post impairment is in line with our valuation. Riversdale was acquired in 2011 for \$3.7bn, post impairment it will have a book value of around \$0.6bn."</p>
[10] 1/17/2013	JP MORGAN	Alcan overhang gone with CEO departure & \$14bn impairment charge	Alcan	0	<p>"Our NPV for the [Aluminum] Division of US\$13.4bn is now much closer to RIO's revised book value of ~US\$16.5bn."</p>
[10] 1/17/2013	JP MORGAN	Alcan overhang gone with CEO departure & \$14bn impairment charge	Iron Ore Price	N/A	N/A

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[11] 1/17/2013	LIBERUM	Big write downs and management changes, RIO moving ahead of market expectations on both counts	Overall		"Big write downs and management changes, RIO moving ahead of market expectations on both counts" "Our initial thoughts are the market already knew these acquisitions were overpriced and the write-downs are not incommensurate with ours and the market's valuation of these assets."
[11] 1/17/2013	LIBERUM	Big write downs and management changes, RIO moving ahead of market expectations on both counts	Management Change	+	"Rio appears to be taking the front foot on write downs and appears to have been more proactive on culpability than Anglo – launching management changes and cost cutting before the market has asked for it. Sam Walsh is the logical replacement for Albanese and has a strong operational heritage and may be more focused on iron ore growth, which the market will like."
[11] 1/17/2013	LIBERUM	Big write downs and management changes, RIO moving ahead of market expectations on both counts	RTCM	0	N/A
[11] 1/17/2013	LIBERUM	Big write downs and management changes, RIO moving ahead of market expectations on both counts	Alcan	0	N/A
[11] 1/17/2013	LIBERUM	Big write downs and management changes, RIO moving ahead of market expectations on both counts	Iron Ore Price	0	"We remain buyers of Rio which has derated sharply on higher iron ore prices - Since December 1st iron ore prices are up 34% vs. Rio shares up only 11%, leaving RIO on a 39% MtM discount to the sector on 2013 PER's."
[12] 1/17/2013	MORNINGSTAR INC.	Iron ore is a strength, aluminum a sleeper for Rio Tinto.	Overall		"Rio Tinto's fourth-quarter production was broadly as expected and we increase our fair value estimate to AUD 95 per share, from AUD 90 per share." "No Fourth Quarter Surprises for Rio 18 Jan 2013 Rio Tinto's fourth-quarter production was broadly as expected and we increase our fair value estimate to AUD 95 per share, from AUD 90 per share." "Despite healthy share price improvement from four-month lows of AUD 49, at AUD 66 the shares remain at a meaningful 25% discount to our fair value estimate."
[12] 1/17/2013	MORNINGSTAR INC.	Iron ore is a strength, aluminum a sleeper for Rio Tinto.	Management Change	+	"Walsh is highly respected and is expected to return to old style Rio values--stingy with the wallet, excruciatingly patient when it comes to asset purchases and a regular seller of non-core assets."

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[12]	1/17/2013	MORNINGSTAR INC.	Iron ore is a strength, aluminum a sleeper for Rio Tinto.	RTCM	N/A	N/A
[12]	1/17/2013	MORNINGSTAR INC.	Iron ore is a strength, aluminum a sleeper for Rio Tinto.	Alcan	0	"It is widely accepted that Rio Tinto overpaid for Alcan , affecting its capacity to fund growth projects and putting it at unwarranted risk during the global financial crisis. Albanese has been identified as the architect of the inauspicious purchase."
[12]	1/17/2013	MORNINGSTAR INC.	Iron ore is a strength, aluminum a sleeper for Rio Tinto.	Iron Ore Price	0	"Key long-term valuation assumptions in 2013 dollars are: USD 90 per metric tonne iron ore fines delivered China"
[13]	1/17/2013	NOMURA INTERNATIONAL (HONG KONG) LTD.	Enter Sam Walsh	Overall		"Rating Remains Buy" "Overall the announcements are clearly negative given the scale of the write-downs, add to this the fact that the iron ore price is now off its highs as restocking in China nears its end, and we would expect RIO to trade weakly in the short term. However, given negligible change to our cash flow outlook, we would recommend buying any meaningful dip, and reiterate our calculation of an average IRR of 15% across its project portfolio."
[13]	1/17/2013	NOMURA INTERNATIONAL (HONG KONG) LTD.	Enter Sam Walsh	Management Change	0	"Furthermore, now that the ‘decks have been cleared’, combined with our expectation that new management will progress in a conservative fashion, we would flag Rio Tinto as an attractive and relatively low risk exposure to the sector within what remains a volatile and unpredictable macro-economic environment." "Sam Walsh (the new CEO with immediate effect) is well known to the market , has been with the Group since 1991, has been in charge of RIO's iron ore business since 2004, and has been on the Board since 2009. He is seen as a ‘straight shooter’, but the market will likely adopt a ‘wait and see’ approach to his leadership of this large, and diverse business." "We do not expect to see any major change in strategy from the group with the new CEO appointment."
[13]	1/17/2013	NOMURA INTERNATIONAL (HONG KONG) LTD.	Enter Sam Walsh	RTCM	0	"The majority write down of the Riversdale coal assets to ~US\$0.4bn appears to relate to both infrastructure and resource constraints limiting volume upside compared to long term targets at the time of the acquisition of 25Mtpa (versus Nomura forecasts of ~1.6mtpa). "
[13]	1/17/2013	NOMURA INTERNATIONAL (HONG KONG) LTD.	Enter Sam Walsh	Alcan	0	"In aluminium the majority of the impairment is expected to relate to goodwill of US\$5.8bn and Pacific Aluminium assets at ~US\$3.5bn. This is expected to reduce the aluminium business asset value to ~US\$20bn close to our NPV."
[13]	1/17/2013	NOMURA INTERNATIONAL (HONG KONG) LTD.	Enter Sam Walsh	Iron Ore Price	-	"[T]he iron ore price is now off its highs as restocking in China nears its end, and we would expect RIO to trade weakly in the short term."
[14]	1/17/2013	RBC CAPITAL MARKETS	Change of Guard	Overall		"We retain our Outperform rating on RIO."

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[14] 1/17/2013	RBC CAPITAL MARKETS	Change of Guard	Management Change	0	"A change of CEO comes slightly earlier than we had expected but changes at Rio, Anglo and BHP are largely expected by the market in the coming year"
[14] 1/17/2013	RBC CAPITAL MARKETS	Change of Guard	RTCM	0	"In addition, the company will recognise a \$3bn impairment on Rio Tinto Coal Mozambique, which was acquired in 2011 for \$4.2bn."
[14] 1/17/2013	RBC CAPITAL MARKETS	Change of Guard	Alcan	0	"Writedown expected by market: At the November investor seminar Rio had already warned of additional writedowns to be taken, with a specific focus on the aluminum division. We had expected an additional writedown of US\$5-10bn , consisting mainly of the additional goodwill of US\$5.8bn associated with the aluminum division after the 2011 writedown of the RTA and other aluminum assets. The additional ~US\$5bn of asset value writedown should not be too much of a surprise considering 1) the weak performance of the aluminum market in 2012; and 2) that most of the miners are currently taking writedowns of larger asset purchases made over the past 5 years. We would expect the aluminium division to be carried at a value of ~\$15-16bn post impairment."
[14] 1/17/2013	RBC CAPITAL MARKETS	Change of Guard	Iron Ore Price	-	"[G]iven the short-term downward momentum on iron ore pricing, we would wait to buy the stock at around £32/sh (ideally with iron ore sub-\$130/t)."
[15] 1/17/2013	SOCIÉTÉ GÉNÉRALE	Time to boost exposure to Rio Tinto stock	Overall		"[W]e believe the negative share price reaction is unwarranted" "Rio Tinto is our top pick in the sector; we see more than 30% upside risk to 2013e consensus EPS forecasts"
[15] 1/17/2013	SOCIÉTÉ GÉNÉRALE	Time to boost exposure to Rio Tinto stock	Management Change	+	"[T]he change of CEO indicates a shift back to the group's iron ore roots and away from a largely disappointing M&A-driven growth strategy (as evidenced by the write-offs)." "[N]ew management a positive" "Sam Walsh looks like a good choice. We think Sam Walsh, currently CEO of the iron ore business, is a good pick for the group CEO job"
[15] 1/17/2013	SOCIÉTÉ GÉNÉRALE	Time to boost exposure to Rio Tinto stock	RTCM	-	"By contrast the \$3bn write-off on the Mozambique assets is a relative disappointment. " "After it reported infrastructure issues in Mozambique early last year, we started valuing these assets at 50% of the acquisition cost. Therefore, a \$3bn write-off is \$1bn worse than our current model. " "Unforeseen circumstances (infrastructure issues, collapse of coking coal price) may have affected the Mozambique deal adversely but that does not change the fact that Rio has never released in-depth data on the projects; lack of detail has prevented us from fully modelling the deal and coming up with more than a 'make do' NPV estimate for the projects."

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[15]	1/17/2013	SOCIÉTÉ GÉNÉRALE	Time to boost exposure to Rio Tinto stock	Alcan	0	"[W]e and many market players we speak with had already significantly marked down the aluminium business " "We value Rio Tinto's aluminium business at an NPV of \$7.0bn (excluding a negative NPV for Pacific Aluminium assets) and thus already implicitly write-off almost the entire aluminium business of Rio Tinto." "Therefore, the write-off is in our view simply an acceptance of what was obvious to most long ago." "Today's write-off clearly indicates it paid too much for Alcan" "As this business has been free cash flow negative for the last 18 months, we doubt investors assign much value to it – a view confirmed by our discussions with various market players."
[15]	1/17/2013	SOCIÉTÉ GÉNÉRALE	Time to boost exposure to Rio Tinto stock	Iron Ore Price	+	"We are increasing our 2013-14 earnings estimates for Rio Tinto by c.30% on average to incorporate our team's higher iron ore price forecasts" "The key downside risks to our target price include lower than expected commodity prices (especially iron ore)" "Clearly, the company's fortunes are tied closely to iron ore prices." "To the extent that a decline in seaborne iron ore prices remains a reasonable possibility (indeed they have already started declining), Rio shares may remain under pressure. "
[16]	1/17/2013	UBS INVESTMENT BANK	Key Call: Rio Tinto Limited CEO change. One impairment too many	Overall		"We are still attracted by valuation (0.76x NPV), growth profile (Pilbara and OT to plan), and cost position of Rio." "Valuation: reiterate Buy, attractive value, cost position, and growth profile" "While the size of impairment/mgmt change is a surprise, in our opinion, these are legacy issues which do not impact our NPV or EPS."
[16]	1/17/2013	UBS INVESTMENT BANK	Key Call: Rio Tinto Limited CEO change. One impairment too many	Management Change	0	"He is seen as a logical successor given his 20yrs at RIO , being Head of Iron Ore for 8yrs and on Board for 4yrs. He is well regarded internally & externally. " "Sam Walsh new CEO: Safe pair of hands"
[16]	1/17/2013	UBS INVESTMENT BANK	Key Call: Rio Tinto Limited CEO change. One impairment too many	RTCM	0	"Accountability sought for Riversdale write down. No impact to EPS/NPV " "We believe the scale of the writedown raises questions about the due diligence process and was the primary driver of the need for management accountability."
[16]	1/17/2013	UBS INVESTMENT BANK	Key Call: Rio Tinto Limited CEO change. One impairment too many	Alcan	0	"Further write downs in Aluminium were expected by the market, consensus valuations were US\$15-20bn (UBSe US\$15bn) vs book of ~US\$30bn."
[16]	1/17/2013	UBS INVESTMENT BANK	Key Call: Rio Tinto Limited CEO change. One impairment too many	Iron Ore Price	0	"We still see material upside to 2013E at spot prices (albeit FeO has slipped to \$145/t)." "[W]e expect EPS to grow >20% in 2013 from FeO/ TiO2 price recovery, Cu volume growth, and cost savings."

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[17]	1/18/2013	CGS-CIMB / CIMB RESEARCH	Write this down	Overall		"RIO's expected US\$14bn writedowns were significantly higher than we anticipated ... However, these writedowns are non-cash and non-recurring, and as a result do not change our long-term view ." "We maintain our Outperform recommendation, with 28% potential upside to our target price" "However, the US\$14bn in writedowns reduces our forecast reported earnings to a loss of US\$4.7bn." "Our NPV-based target price adjusts to A\$82.36 (from A\$84.05)."
[17]	1/18/2013	CGS-CIMB / CIMB RESEARCH	Write this down	Management Change	+	"Given the quantum of the writedowns, the appointment of a new CEO, Sam Walsh (current head of Iron Ore division), was no surprise." "Following the latest writedown, we believe the change in CEO was inevitable, given the ~US\$28bn of total Aluminium division writedowns since the Alcan acquisition for US\$38bn which was completed under Tom Albanese's watch." "[T]his is a welcome change in leadership, in our view ." "Resulting management changes – a positive" "In our view, Sam Walsh - New RIO CEO, and the current head of the Iron Ore division - is viewed well by the market as he has managed a successful business particularly during the expansion phase, importantly with no capex blowouts." "The change in leadership may be a mild positive as it removes a slight overhang on the stock given ongoing question marks particularly over the Alcan acquisition."
[17]	1/18/2013	CGS-CIMB / CIMB RESEARCH	Write this down	RTCM	-	"We have revised our earnings forecasts and reduced our NPV-based target price to \$82.36ps after incorporating the expected writedown, and scaling back the ramp-up of production at Mozambique Coal." "The writedown has come about as a result of RIO reviewing infrastructure plans at the site. RIO initially planned to barge coal down the Zambeze river. However, the Mozambique government denied approval for this which in turn has led to a "reassessment of the overall scale and ramp-up schedule" for this business." "After revising our ramp-up profile for Mozambique Coal, our NPV and earnings forecasts have largely decreased over the forecast period."
[17]	1/18/2013	CGS-CIMB / CIMB RESEARCH	Write this down	Alcan	0	"The potential for a writedown in the Aluminium division was flagged at the investor day in Sydney in November 2012 and is mostly related to Alcan...As part of the announcement, the company cited: 1) poor aluminium markets, 2) higher currencies, and 3) high input costs (notably energy costs) as the reasons for the writedown."
[17]	1/18/2013	CGS-CIMB / CIMB RESEARCH	Write this down	Iron Ore Price	0	"Downside risks to our earnings and valuation relate to lower-than-forecast commodity prices, particularly for iron ore."

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[18]	1/18/2013	CREDIT SUISSE	Increasing accountability & improved optics	Overall		"Incorporating the new asset values increases FY13-14 EPS by 2.5% as D&A from the aluminium business come down, slightly offset by lower expected tonnage out of Mozambique." "Most valuation metrics are improved but price/book does increase for Rio FY13 PB for Ltd increases from 2x to 2.5x. Write-downs can't create value! Our DCF valuation is only marginally impacted as we halve our valuation of Riversdale to \$700m."
[18]	1/18/2013	CREDIT SUISSE	Increasing accountability & improved optics	Management Change	0	"Management changes: Rio Tinto has announced the appointment of a new CEO (Sam Walsh current iron ore head) and in the process has cleaned the decks (again) on impairments. We do not expect any material change in strategy going forward with RIO focusing on its existing core assets. " "Sam Walsh is known for delivering consistent and ahead-of-guidance iron ore production over the years and project delivery within budget and schedule. Given the current investment case for Rio Tinto is iron ore focused, investors and the market should be comfortable and familiar with new leadership. Sam Walsh is a shorter term CEO. His job will be to steady the ship, drive out costs and see through the current growth projects in iron ore, Australian coal (latent capacity) and Oyu Tolgoi."
[18]	1/18/2013	CREDIT SUISSE	Increasing accountability & improved optics	RTCM	-	"Total impairment expected to approximate \$14bn (post tax) of which \$3bn relate to Mozambique (BV \$3.4bn, CS value \$1.5bn) and aluminium (BV \$27bn, CS approx. \$12bn). Given our valuations for these assets, write-downs would have been expected - we see the Mozambique coal write-down as the more surprising of the two. " "In the release, Rio said that in Mozambique, development of infrastructure is proving more challenging than anticipated. The barging option did not get its formal approvals. Combined with a downward revision to coking coal reserves/resources, this has led to a reassessment of the overall scale and ramp up schedule and hence the impairment. In our model, we carried a valuation of \$1.5bn for Mozambique coal but now reduce this to \$700m as we no longer assume expansions beyond 8mtpa (100%, RIO owns 65%). "
[18]	1/18/2013	CREDIT SUISSE	Increasing accountability & improved optics	Alcan	0	"Aluminium (total) net operating assets at 30 June 2012 were \$26.9bn and our valuation is \$11.2bn - so we see this move as bringing the carrying value back in line with market-based valuations. "
[18]	1/18/2013	CREDIT SUISSE	Increasing accountability & improved optics	Iron Ore Price	0	"Neither Aluminium or Mozambique coal formed a core part of our investment case for Rio Tinto. Investors should remain focused on iron ore prices / China steel production and Oyo Tolgoi progress."
[19]	1/18/2013	INVESTEC BANK PLC (UK)	New CEO, same strategy, but catalyst for further changes	Overall		"Maintain our high conviction Buy" "Our share price target is increased from A\$69.00/share to A\$74.00/share, this has been set at 50% NPV and 50% CY'13E earnings, on a PER of 11x." "Target: A\$74.00 (prev: A\$69.00)" "The NPV of the Company's businesses has been reduced 4% from US\$176b to US\$169bn" "Earnings revisions are minimal"

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[19]	1/18/2013	INVESTEC BANK PLC (UK)	New CEO, same strategy, but catalyst for further changes	Management Change	+	"Though responsible for the Riversdale Coal acquisition, the removal of Doug Ritchie comes as quite a surprise, given market expectation that he was earmarked to take over the top job from Tom Albanese. " "Sam Walsh - the right man in the right place" "...it is not entirely surprising to see a significant shift in senior management. With the departure of Tom Albanese and Doug Ritchie, we expect new CEO Sam Walsh will quickly begin a tough but very process driven approach to further drive costs from the business, particularly the aluminium and coal operations, and accelerate new technologies across the group." "We see the management changes as a positive move. " "There is strong upside on a valuation basis, and Walsh is likely to move quickly to stamp his authority on a Group that he already knows intimately."
[19]	1/18/2013	INVESTEC BANK PLC (UK)	New CEO, same strategy, but catalyst for further changes	RTCM	-	"We have reduced our value for Mozambique coal from US\$4.0b to zero , and removed completely any growth in volumes above 3mtpa (previously 15mtpa by 2020 and 22mtpa by 2025)." "There had been a strong sense for most of CY'12 that Mozambique didn't have anywhere near the reserve quality to justify development. This view was compounded by slow progress to develop a river barging option , intended to pay for rail infrastructure, that would support a truly world scale operation."
[19]	1/18/2013	INVESTEC BANK PLC (UK)	New CEO, same strategy, but catalyst for further changes	Alcan	-	"We suspect that even RIO insiders were caught unawares as to the extent of the Aluminium impairments " " Our valuation for Aluminium has been reduced from US\$25.8b to US\$18.7b " "Even if the Aluminium business is accorded zero value by the market, we would value RIO at A\$80.00/share." "Until we see signs of a recovery in the Aluminium division, our price target excludes any value attributable to Aluminium, despite, in our view, having an NPV of A\$10.00/share. "
[19]	1/18/2013	INVESTEC BANK PLC (UK)	New CEO, same strategy, but catalyst for further changes	Iron Ore Price	+	"[Earnings revisions] [m]ainly reflect revised commodity price assumptions (see table 3), in particular a slightly higher iron ore price, lower aluminium prices, and lower industrial minerals prices."
[20]	1/18/2013	MACQUARIE RESEARCH	Acquisition Accountability	Overall		" Maintain Neutral & A\$75/sh target: " "As a result of these write-downs, we expect medium term earnings to rise by ~3% (from 2013 to 2016)."

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[20] 1/18/2013	MACQUARIE RESEARCH	Acquisition Accountability	Management Change	0	<p>"Management changes: Although the management changes appear to have been well received, their scale and hurried nature could pose challenges in the months ahead."</p> <p>"While new CEO, Sam Walsh's track record speaks for itself and his established cost focus will be well received in the current environment, this nevertheless feels like hurried succession planning with Walsh seemingly playing a care-taker role until a more permanent solution can be found. What's more, we note that within a year RIO will have a new CEO, CFO and heads of both Iron Ore and Strategy"</p> <p>"However we expect few major strategic moves under Walsh, despite the opportunities that such volatile commodity prices might throw up."</p> <p>"Corporate Governance: Perhaps the biggest positive from this whole ordeal is what it says about RIO's corporate governance and the Board's pro-active involvement (which is often deemed to be lacking in such large organisations)."</p>
[20] 1/18/2013	MACQUARIE RESEARCH	Acquisition Accountability	RTCM	-	<p>"...Riversdale perhaps also suggests poor asset selection."</p> <p>"Mozambique an early admission of over-paying: RIO is also writing down its Mozambique coal assets by U\$3bn which reduces the carrying value of RTCM close to zero (this compares to our previous valuation of ~U\$3.1bn and the Riversdale acquisition price of U\$3.7bn paid as recently as 2011). The issues here stem from a smaller and lower quality resource than previously envisaged, development constraints limiting export volumes and the falling coking coal price."</p> <p>"[W]e have capped volumes at ~2mtpa for the foreseeable future. While this lowers our NAV by ~A\$2/sh, we continue to see longer term strategic value in RIO's significant foothold in what remains likely to ultimately become a global scale coking coal basin."</p> <p>Macquarie Research reduced its NPV for RTCM from \$3.16 bn to \$0.2 bn after the disclosure (see Figure 1).</p> <p>"While the Aluminium write-down merely brings book value into line with our NPV, the cut to RTCM lowers our overall NPV by ~A\$2/sh"</p>
[20] 1/18/2013	MACQUARIE RESEARCH	Acquisition Accountability	Alcan	0	<p>"Aluminium write-downs largely anticipated...Although colossal, these write-downs take the carrying value of RIO's aluminium assets to ~U\$15.5bn - broadly inline with our valuation of U\$15bn. As a result, this move was largely expected and perhaps removes the over-hang, putting a struggling business into some clearer air."</p>
[20] 1/18/2013	MACQUARIE RESEARCH	Acquisition Accountability	Iron Ore Price	-	<p>"While RIO continues to trade at a 30% discount to NAV, given the 35% rally since September, the falling iron ore price and now the challenges of a colossal management re-shuffle, we remain comfortable with our Neutral rating ahead of next month's results."</p>
[21] 1/18/2013	SOCIÉTÉ GÉNÉRALE	Why new CEO is likely to be a positive for Rio Tinto shares	Overall		<p>"Buy"</p> <p>"Our unchanged target price of 3,900p is based our NPV estimate. We use a real WACC of 8.0% and model cash flows till the end of mine lives with no terminal value."</p>

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Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[21] 1/18/2013	SOCIÉTÉ GÉNÉRALE	Why new CEO is likely to be a positive for Rio Tinto shares	Management Change	+	"As Tom Albanese is being replaced because of value destructive M&A deals, we think his successor Sam Walsh is likely to learn from Tom's experience and is unlikely to repeat these mistakes. This is a significant positive for Rio Tinto's long-term stock price outlook. "
[21] 1/18/2013	SOCIÉTÉ GÉNÉRALE	Why new CEO is likely to be a positive for Rio Tinto shares	RTCM	-	"There is a significant correlation between being too acquisitive and poor shareholder returns (Rio's experience with Alcan/Riversdale [is a]... all good [example] of deals gone bad.)"
[21] 1/18/2013	SOCIÉTÉ GÉNÉRALE	Why new CEO is likely to be a positive for Rio Tinto shares	Alcan	N/A	N/A
[21] 1/18/2013	SOCIÉTÉ GÉNÉRALE	Why new CEO is likely to be a positive for Rio Tinto shares	Iron Ore Price	0	"The key downside risks to our target price include lower than expected prices (especially iron ore) and higher than expected costs."
[22] 1/19/2013	MORNINGSTAR INC.	Rio's Great Cleanse	Overall		"In our opinion the writedown is an accounting entry only and has no impact on our AUD 95 fair value estimate, nor our earnings forecasts."
[22] 1/19/2013	MORNINGSTAR INC.	Rio's Great Cleanse	Management Change	+	"It's taken a long time, but Rio Tinto RIO CEO Tom Albanese has finally fallen on his sword (or was felled by his sword) and is replaced by respected Rio iron ore head Sam Walsh. How Albanese was allowed to stay at the helm for so long is a mystery. His departure is a positive for Rio and despite headline grabbing writedowns of USD 14 billion, we expect Rio shares to rally as the news is thoughtfully digested. " "We expect a return to old style Rio values under Walsh-- stingy with the wallet, excruciatingly patient when it comes to assets purchases and a regular seller of non-core assets."
[22] 1/19/2013	MORNINGSTAR INC.	Rio's Great Cleanse	RTCM	0	"Despite this, we think Rio needs to reweight its portfolio... Rio's USD 3 billion writedown of Mozambique coal assets yesterday gives an indication of where that path can unfortunately lead. "
[22] 1/19/2013	MORNINGSTAR INC.	Rio's Great Cleanse	Alcan	0	"We think aluminum should constitute a substantially larger share, given the USD 40 billion that Rio Tinto controversially paid for Alcan in 2007." "Alcan was not high cost but aluminium prices did crash, and during the middle of a once-in-a-generation resources boom. Alcan indeed turned out to be Rio's Magma moment." "For our money the sin was not buying Alcan... The first offense was in gearing Rio up to almost 200% net debt/equity with short-term debt." "The USD 14 billion post-tax impairment mostly relates to Alcan and should be the end of the bloodletting." "Rio is not making a satisfactory return on its aluminum assets and has been roundly criticized for overpaying for Alcan."
[22] 1/19/2013	MORNINGSTAR INC.	Rio's Great Cleanse	Iron Ore Price	0	"Rio's asset portfolio is heavily skewed to iron ore. Much of this is simply a function of the very high iron ore price, and will in part resolve as prices recede to longer-term sustainable levels."

Appendix C.8
Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures on January 17, 2013
January 17, 2013 through January 31, 2013

Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[23] 1/22/2013	ZACKS INVESTMENT RESEARCH	Rio Tinto plc (RIO) Zacks Company Report	Overall		"We are downgrading Rio Tinto from a Neutral to Underperform recommendation based on the recent writedown of assets to the tune of \$14 billion." "Despite these, the cost saving initiatives the company has undertaken along with the divestiture programs the company follows so rigorously give us a ray of hope." "Our Underperform recommendation on the ADR indicates that the company would underperform the broader market. Our \$51.00 target price, 8.4x 2013 EPADR, reflects this view."
[23] 1/22/2013	ZACKS INVESTMENT RESEARCH	Rio Tinto plc (RIO) Zacks Company Report	Management Change	N/A	N/A
[23] 1/22/2013	ZACKS INVESTMENT RESEARCH	Rio Tinto plc (RIO) Zacks Company Report	RTCM	-	"The recent write down of assets worth \$14 billion leaves the company in a very bad shape. The write-down included roughly \$3 billion for Rio Tinto Coal Mozambique (RTCM)."
[23] 1/22/2013	ZACKS INVESTMENT RESEARCH	Rio Tinto plc (RIO) Zacks Company Report	Alcan	-	N/A
[23] 1/22/2013	ZACKS INVESTMENT RESEARCH	Rio Tinto plc (RIO) Zacks Company Report	Iron Ore Price	N/A	N/A
[24] 1/24/2013	CITIGROUP INC	Absolute Call - Adding RIO.L	Overall		"We believe that the share price of RIO.L will move Up in absolute terms in the next 1 Year based on the last closing price of £35.01." "It has tried to diversify itself away from iron ore through a number of acquisitions. We believe that the recent impairment charge of ~\$14bn, highlights that this strategy has been unsuccessful "
[24] 1/24/2013	CITIGROUP INC	Absolute Call - Adding RIO.L	Management Change	+	"The incoming CEO Sam Walsh is likely to make a smooth transition after running the iron ore business. We believe the recent write-downs and management will be long-term positive for the company." "We believe the new management could significantly realign Rio Tinto with shareholder interests through reduced M&A and reduced capex spend."
[24] 1/24/2013	CITIGROUP INC	Absolute Call - Adding RIO.L	RTCM	N/A	N/A
[24] 1/24/2013	CITIGROUP INC	Absolute Call - Adding RIO.L	Alcan	N/A	N/A
[24] 1/24/2013	CITIGROUP INC	Absolute Call - Adding RIO.L	Iron Ore Price	N/A	N/A

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	Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[25]	1/25/2013	MORNINGSTAR INC.	Trimming Our 2012 Profit	Overall		"We're downgrading our 2012 earnings forecast for Rio Tinto RIO by 8%, to AUD 4.84 per share, after taking a more hawkish view of Rio's energy, industrial minerals and copper divisions." "There's no change to our AUD 95-per-share fair value estimate, or our positive stance."
[25]	1/25/2013	MORNINGSTAR INC.	Trimming Our 2012 Profit	Management Change	N/A	N/A
[25]	1/25/2013	MORNINGSTAR INC.	Trimming Our 2012 Profit	RTCM	N/A	N/A
[25]	1/25/2013	MORNINGSTAR INC.	Trimming Our 2012 Profit	Alcan	N/A	N/A
[25]	1/25/2013	MORNINGSTAR INC.	Trimming Our 2012 Profit	Iron Ore Price	N/A	N/A
[26]	1/29/2013	CANACCORD GENUITY	Rio remains our top pick on higher prices	Overall		"Our revised 4200p price target for RIO offers 19% potential upside from current levels." "Buy" "Valuation – RIO stands out among the large-cap names" "Our estimates change reflecting the amended metal price and exchange rate forecasts we are now using as well as updating production estimates for recent production releases and volume commentary (BLT, RIO, WTI and CAML). We have reflected the recently announced US\$14B write-downs at Rio Tinto." "The large write-downs in the group in our eyes have had a limited impact on the ongoing valuation of the company as the charges are non cash." "Rio Tinto remains our top pick in the large-cap diversified/industrial mining sector: our revised price target of 4200p offers some 20% potential upside."
[26]	1/29/2013	CANACCORD GENUITY	Rio remains our top pick on higher prices	Management Change	0	"In addition, the action of the board in selecting a new management team sends a strong signal that management at all levels of the group needs to husband capital. "
[26]	1/29/2013	CANACCORD GENUITY	Rio remains our top pick on higher prices	RTCM	0	N/A
[26]	1/29/2013	CANACCORD GENUITY	Rio remains our top pick on higher prices	Alcan	0	N/A

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January 17, 2013 through January 31, 2013

Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[26] 1/29/2013	CANACCORD GENUITY	Rio remains our top pick on higher prices	Iron Ore Price	0	<p>"We have increased our near-term iron ore and copper forecasts and also increased our long-run copper price level to US\$6,280/t (US\$2.85/lb). This drives an upward bias to both estimates and price targets."</p> <p>"Our iron ore price estimates shift up 9% reflecting the strong start to 2013. We still expect price declines over the next few years but believe these price falls are anticipated by the market given the new supply we expect onstream through 2013 - 2015."</p> <p>"Iron ore – price weakness should provide entry points for Rio Tinto"</p> <p>"Many, including us, expect iron ore prices to moderate through 2013 on rising supply... Once iron ore prices are closer to our 2H expectation of US\$125/tonne landed China, we would use any pullback in RIO's share price to add to positions."</p>
[27] 1/30/2013	MERRILL LYNCH	Oyu Tolgoi shutdown threat = Hardball with 7% of NPV	Overall		<p>"Maintain BUY, price objective GBp3900 / A\$68.5."</p> <p>"Oyu Tolgoi is Rio's next big copper mine, 7% of our NPV"</p> <p>"According to Bloomberg, Rio Tinto is considering a temporary halt to work at its Oyu Tolgoi (OT) project in Mongolia."</p>
[27] 1/30/2013	MERRILL LYNCH	Oyu Tolgoi shutdown threat = Hardball with 7% of NPV	Management Change	N/A	N/A
[27] 1/30/2013	MERRILL LYNCH	Oyu Tolgoi shutdown threat = Hardball with 7% of NPV	RTCM	N/A	N/A
[27] 1/30/2013	MERRILL LYNCH	Oyu Tolgoi shutdown threat = Hardball with 7% of NPV	Alcan	N/A	N/A
[27] 1/30/2013	MERRILL LYNCH	Oyu Tolgoi shutdown threat = Hardball with 7% of NPV	Iron Ore Price	N/A	N/A

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Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[28] 1/31/2013	MORGAN STANLEY	Could change in capital allocation trigger re-rating?	Overall		"Stock Rating: Equal-weight" "Industry View In-Line" "Rio's cost plans are a step in the right direction but we seek more detail and we fear targets could be mostly absorbed by underlying cost inflation." "Keeping all other assumptions unchanged we get to a dividend yield of 4.0% on average in 2013-2015 based on only sustaining capex or -0.5% on average 2013-2015 including expansion capex, rising to 6% in 2016 in both cases." "Equity re-rating requires tangible steps on capital allocation, we think." "Investors most focused on cash allocation we think" "Cost focus is move in right direction but targets look ambitious" "Rio's fully levered balance sheet makes a special dividend or buyback unlikely near term. One option to reassure the market and potentially trigger an equity re-rating could be to link dividends to the cash flows of iron ore. We explore the outcome of a theoretical change in capital allocation."
[28] 1/31/2013	MORGAN STANLEY	Could change in capital allocation trigger re-rating?	Management Change	0	"Incoming CEO Walsh may seek other ways to reassure investors that future cash flows will be re-invested in a value accretive way, we think." "Investors are carefully watching new CEO Walsh's approach to key issues... We believe investors...are looking for evidence that incoming CEO Walsh will more effectively manage the allocation of operating and free cash flow in the future. " "Incoming CEO Walsh's main challenge, in our view, will be to restore confidence with the equity market that Rio can and will efficaciously re-invest future operating and free cash flow from the iron ore operations. We consider this the main internal lever to trigger a re-rating of Rio's equity."
[28] 1/31/2013	MORGAN STANLEY	Could change in capital allocation trigger re-rating?	RTCM	N/A	N/A
[28] 1/31/2013	MORGAN STANLEY	Could change in capital allocation trigger re-rating?	Alcan	N/A	N/A
[28] 1/31/2013	MORGAN STANLEY	Could change in capital allocation trigger re-rating?	Iron Ore Price	0	"[T]he 33% increase since Dec in the price of iron ore, Rio's key commodity, and the limited upside to our PT make us more cautious." "If iron ore prices decline, dividends decline unless Rio can cut costs even faster."
[29] 1/31/2013	RBC CAPITAL MARKETS	Turquoise Hill announces first production from Oyu Tolgoi	Overall		"Turquoise Hill Resources (RIO: 50.8%) has announced that the Oyu Tolgoi mine has produced its first copper-gold concentrate."

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Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures on January 17, 2013
January 17, 2013 through January 31, 2013

	Date	Contributor	Headline	Topic	Analyst Reaction ^a		Commentary
[29]	1/31/2013	RBC CAPITAL MARKETS	Turquoise Hill announces first production from Oyu Tolgoi	Management Change	N/A	N/A	
[29]	1/31/2013	RBC CAPITAL MARKETS	Turquoise Hill announces first production from Oyu Tolgoi	RTCM	N/A	N/A	
[29]	1/31/2013	RBC CAPITAL MARKETS	Turquoise Hill announces first production from Oyu Tolgoi	Alcan	N/A	N/A	
[29]	1/31/2013	RBC CAPITAL MARKETS	Turquoise Hill announces first production from Oyu Tolgoi	Iron Ore Price	N/A	N/A	
[30]	1/31/2013	SOCIÉTÉ GÉNÉRALE	Corporate news Why we are not worried about Oyu Tolgoi	Overall			"According to various media reports including Bloomberg, Rio Tinto is said to be considering suspension of work at its Oyu Tolgoi project in Mongolia." "We estimate that Rio Tinto's stake in Oyu Tolgoi has an NPV of about \$6bn or c6% of Rio's market cap. This means, if the Mongolian government were to impose unfair terms on Rio Tinto, there may be up to 6% downside risk to our NPV and target price for Rio Tinto. However, we think any such outcome is highly unlikely..." "Our unchanged 3,900p target price is based on our NPV estimates."
[30]	1/31/2013	SOCIÉTÉ GÉNÉRALE	Corporate news Why we are not worried about Oyu Tolgoi	Management Change	N/A	N/A	
[30]	1/31/2013	SOCIÉTÉ GÉNÉRALE	Corporate news Why we are not worried about Oyu Tolgoi	RTCM	N/A	N/A	
[30]	1/31/2013	SOCIÉTÉ GÉNÉRALE	Corporate news Why we are not worried about Oyu Tolgoi	Alcan	N/A	N/A	

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Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures on January 17, 2013
January 17, 2013 through January 31, 2013

	Date	Contributor	Headline	Topic	Analyst Reaction ^a	Commentary
[30]	1/31/2013	SOCIÉTÉ GÉNÉRALE	Corporate news Why we are not worried about Oyu Tolgoi	Iron Ore Price	0	"They [sic] key downside risks to our target price include lower than expected commodity prices (especially iron ore) and higher than expected costs."

Notes and Sources:

This appendix summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group and were published between January 17, 2013 and January 31, 2013. To compile the reports summarized in this appendix, I followed the following steps:

(i) From the list of analysts' reports produced in discovery, provided by Rio Tinto, or identified in my searches of the Capital IQ and Thomson ONE platforms, I removed duplicate reports where duplicates were defined as (a) a report with the same Contributor, Date, Headline, and Number of Pages as another report, (b) a report with the same Contributor, Date, and number of Pages as another report, but no Headline, or (c) a report within one day of another report with the same Contributor, Headline, and Number of Pages. If duplicate reports had different prices, I removed the more expensive report. If duplicate reports had different Dates (per criteria (b) above), I removed the report with the earlier Date.

(ii) I excluded reports from News Bites Pty Limited, Marketline, Riskmetrics, Thomson Stretevents, Eva Dimensions, Wright Investors Service, Globaldata, and Sadif-Investment Analytics SA because I found that they either were not analysts' reports or did not provide analysts' commentary on company events.

(iii) Of the remaining reports, I selected one report per contributor per day. To do so, I first identified additional duplicates by removing "Ltd," "plc," "Plc," "Limited," "Rio.L," or "Rio.AX" from the headline. For each Date and Contributor, if there was a report produced in discovery or provided by Rio Tinto available, I selected that report. If there was a longer report also available for that Contributor and Date, that report was also selected, resulting in two reports for that Date. If no reports were produced in discovery or provided by Rio Tinto for a Date and Contributor combination, I selected the report with the greatest Number of Pages. If there were multiple reports with the same Number of Pages, I selected the least expensive report.

This process resulted in the list of 30 reports that are summarized in this appendix (Note that I excluded three reports that I found to be duplicative upon reviewing).

[a] I code analysts' reactions to the January 17, 2013 Disclosures as positive (+), negative (-), or neutral (0). N/A indicates a topic that was not discussed in the analysts' report. This table is sorted by date.

Appendix C.9
EPS Forecasts for Fiscal Year 2012 from Equity Analysts' Reports (Rio AU)

		Nomura																	
		Baillieu Holst	Bell Potter Securities	CBA	CGS- CIMB Research	Credit Suisse (Australia)	Macquarie Research	Morningstar, Inc.	Asian Equity Research	Shaw and Partners	Contributor #								
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	17472	22760	23816	25632	32	36928	392	73704	888
[1]	8/6/2012	\$7.96	\$8.20	\$6.71	--	\$5.58	\$5.92	\$6.73	\$6.40	\$6.45	\$6.56	\$5.59	\$7.38	\$5.98	\$5.49	\$5.57	\$5.64	--	\$6.22
[2]	8/7/2012	\$7.96	\$8.20	\$6.71	--	\$5.58	\$5.92	\$6.73	\$6.40	\$6.45	\$6.56	\$5.59	\$6.45	\$5.98	\$5.49	\$5.57	\$5.64	--	\$6.22
[3]	8/8/2012	\$7.96	\$8.20	\$6.08	--	\$5.58	\$5.92	\$6.73	\$6.40	\$6.45	\$6.56	\$5.59	\$6.45	\$5.98	\$5.53	\$5.71	\$5.86	--	\$6.22
[4]	8/9/2012	\$7.96	\$8.20	\$6.08	--	\$5.58	\$5.92	\$6.79	\$6.40	\$6.45	\$6.56	\$5.59	\$6.55	\$6.08	\$5.53	\$5.71	\$5.86	--	\$6.00
[5]	8/10/2012	\$5.84	\$8.20	\$6.08	--	\$5.58	\$5.92	\$6.79	\$6.40	\$6.45	\$6.56	\$5.59	\$6.55	\$6.08	\$5.53	\$5.71	\$5.86	--	\$6.00
[6]	8/13/2012	\$5.84	\$8.20	\$6.08	--	\$5.58	\$5.92	\$6.79	\$6.63	\$6.45	\$6.56	\$5.59	\$6.55	\$6.08	\$5.53	\$5.71	\$5.86	--	\$6.00
[7]	8/14/2012	\$5.84	\$8.20	\$6.08	--	\$5.41	\$5.92	\$6.79	\$6.63	\$6.45	\$6.56	\$5.59	\$6.55	\$6.08	\$5.53	\$5.71	\$5.86	--	\$6.00
[8]	8/15/2012	\$5.84	\$8.20	\$6.08	--	\$5.41	\$5.92	\$6.79	\$6.63	\$6.45	\$6.56	\$5.59	\$6.55	\$6.08	\$5.53	\$5.65	\$5.86	--	\$6.00
[9]	8/16/2012	\$5.84	\$8.20	\$6.08	--	\$5.41	\$5.92	\$6.79	\$6.63	\$6.45	\$6.56	\$5.64	\$6.55	\$6.08	\$5.53	\$5.65	\$5.86	--	\$6.00
[10]	8/19/2012	\$5.84	\$8.20	\$5.59	--	\$5.41	\$5.92	\$6.79	\$6.63	\$6.45	\$6.56	\$5.64	\$6.55	\$6.08	\$5.53	\$5.65	\$5.86	--	\$6.00
[11]	8/22/2012	\$5.84	\$8.20	\$5.59	--	\$5.41	\$5.92	\$6.79	\$6.63	\$6.45	\$6.56	\$5.64	\$6.55	\$6.08	\$5.53	\$5.65	\$5.86	--	\$5.60
[12]	8/26/2012	\$5.84	\$8.20	\$5.59	--	\$5.41	\$5.97	\$6.79	\$6.63	\$6.45	\$6.56	\$5.64	\$6.55	\$6.08	\$5.53	\$5.65	\$5.86	--	\$5.60
[13]	8/28/2012	\$5.84	\$8.20	\$5.59	--	\$5.41	\$5.97	\$6.79	\$6.63	\$6.45	\$6.56	\$5.64	\$6.55	\$6.08	\$5.53	\$5.65	\$5.86	--	\$5.60
[14]	8/29/2012	\$5.84	\$8.20	\$5.59	--	\$5.41	\$5.97	\$6.79	\$6.63	\$6.45	\$6.56	\$5.18	\$5.83	\$6.08	\$5.53	\$5.65	\$5.86	--	\$5.60
[15]	8/31/2012	\$5.84	\$8.20	\$5.59	--	\$5.41	\$5.97	\$6.79	\$5.58	\$6.45	\$6.56	\$5.18	\$5.83	\$6.08	\$5.53	\$5.65	\$5.86	--	\$5.60
[16]	9/3/2012	\$5.84	\$8.20	\$5.59	--	\$5.41	\$5.97	\$6.79	\$5.58	\$6.45	\$6.56	\$5.18	\$5.83	\$4.92	\$5.53	\$5.65	\$5.86	--	\$5.60
[17]	9/4/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$5.97	\$6.79	\$5.58	\$6.45	\$6.56	\$5.18	\$5.83	\$4.92	\$5.53	\$5.65	\$5.86	--	\$5.60
[18]	9/6/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$5.97	\$6.79	\$5.58	\$6.45	\$6.56	\$5.18	\$5.83	\$4.92	\$5.53	\$4.64	\$5.86	--	\$5.60
[19]	9/7/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$5.97	\$6.79	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$5.53	\$4.61	\$5.86	--	\$5.60
[20]	9/11/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$5.97	\$6.79	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$5.53	\$4.61	\$5.86	--	\$5.60
[21]	9/12/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$5.97	\$6.79	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$5.53	\$4.63	\$5.86	--	\$5.60
[22]	9/13/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$5.97	\$6.79	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$5.53	\$4.63	\$5.86	--	\$5.60
[23]	9/20/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$5.97	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$5.53	\$4.63	\$5.86	--	\$5.60
[24]	9/24/2012	\$5.84	\$8.20	\$5.59	--	\$5.42	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$4.90	\$4.63	\$5.86	--	\$5.60
[25]	9/25/2012	\$5.84	\$8.20	\$5.59	--	\$5.38	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$4.90	\$4.63	\$5.86	--	\$5.60
[26]	10/2/2012	\$5.84	\$8.20	\$5.59	--	\$5.38	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.83	\$4.92	\$4.90	\$4.63	\$5.17	--	\$5.60
[27]	10/4/2012	\$5.84	--	\$5.59	--	\$5.38	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.66	\$4.92	\$4.90	\$4.63	\$5.17	--	\$5.60
[28]	10/5/2012	\$5.84	--	\$5.59	--	\$5.38	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.66	\$4.92	\$4.90	\$4.52	\$5.17	--	\$5.60
[29]	10/10/2012	\$5.84	--	\$5.59	--	\$5.38	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.66	\$4.92	\$4.89	\$4.52	\$5.17	--	\$5.60
[30]	10/11/2012	\$5.84	--	\$5.39	--	\$5.38	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.66	\$4.92	\$4.89	\$4.52	\$5.17	--	\$5.60
[31]	10/15/2012	\$5.84	--	\$5.39	--	\$5.38	\$4.55	\$6.20	\$5.58	\$6.45	\$5.22	\$5.18	\$5.66	\$4.92	\$4.89	\$4.52	\$5.17	--	\$5.60
[32]	10/16/2012	\$5.84	--	\$5.39	--	\$4.54	\$4.55	\$6.20	\$5.66	\$6.45	\$5.22	\$5.50	\$5.66	\$4.92	\$4.89	\$4.46	\$5.20	--	\$5.57
[33]	10/17/2012	\$5.84	--	\$5.39	--	\$4.54	\$4.55	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.66	\$4.92	\$4.89	\$4.46	\$5.20	--	\$5.57
[34]	10/22/2012	\$5.84	--	\$5.39	--	\$4.54	\$4.47	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.66	\$4.92	\$4.89	\$4.46	\$5.20	--	\$5.57
[35]	10/23/2012	\$5.84	--	\$5.39	--	\$4.54	\$4.47	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.44	\$4.92	\$4.89	\$4.46	\$5.20	--	\$5.57
[36]	10/29/2012	\$5.84	--	\$5.39	--	\$4.54	\$4.47	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.44	\$4.92	\$4.89	\$4.46	\$5.20	--	\$5.57
[37]	11/2/2012	\$5.84	--	\$5.39	--	\$4.54	\$4.47	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.44	\$4.92	\$4.89	\$4.46	\$5.20	--	--
[38]	11/5/2012	\$5.84	--	\$5.39	\$5.57	\$4.54	\$4.36	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.44	\$4.92	\$4.96	\$4.46	\$5.19	--	--
[39]	11/6/2012	\$5.84	--	\$5.39	\$5.57	\$4.52	\$4.36	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.44	\$4.92	\$4.96	\$4.46	\$5.19	--	--
[40]	11/14/2012	\$5.84	--	\$5.39	\$5.57	\$4.52	\$4.36	\$5.93	\$5.66	\$6.45	\$5.22	\$5.50	\$5.44	\$4.92	\$4.96	\$4.42	\$5.19	--	--

Appendix C.9
EPS Forecasts for Fiscal Year 2012 from Equity Analysts' Reports (Rio AU)

		Nomura																	
		Baillieu	Bell	CGS-		Credit	Macquarie	Morningstar,	Asian	Shaw	Contributor #								
		Holst	Potter	CBA	CIMB	Suisse	Research	Inc.	Equity	and	17472	22760	23816	25632	32	36928	392	73704	888
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]	[P]	[Q]	[R]
[41]	11/20/2012	\$5.84	--	\$5.31	\$5.57	\$4.52	\$4.36	\$5.93	\$5.66	\$6.45	\$5.21	\$5.50	\$5.44	\$4.92	\$4.96	\$4.42	\$5.19	--	--
[42]	11/26/2012	\$5.84	--	\$5.31	\$5.57	\$4.52	\$4.36	\$5.93	\$5.66	\$6.45	\$5.21	\$5.51	\$5.44	\$4.92	\$4.96	\$4.42	\$5.19	\$4.30	--
[43]	11/29/2012	\$5.84	--	\$5.31	\$5.57	\$4.52	\$4.36	\$5.93	\$5.66	\$6.45	\$5.21	\$5.51	\$5.38	\$4.92	\$4.96	\$4.50	\$5.19	\$4.30	--
[44]	11/30/2012	\$5.84	--	\$5.31	\$5.42	\$4.52	\$4.36	\$5.93	\$5.66	\$6.45	\$5.21	\$5.51	\$5.38	\$4.92	\$4.96	\$4.50	\$5.19	\$4.30	--
[45]	12/3/2012	\$5.84	--	\$5.31	\$5.42	\$4.52	\$4.49	\$5.93	\$5.66	\$6.45	\$5.21	\$5.51	\$5.38	\$4.92	\$4.96	\$4.50	\$5.19	\$4.21	--
[46]	12/4/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.49	\$5.93	\$5.66	\$6.45	\$5.21	\$5.51	\$5.38	\$4.92	\$4.96	\$4.50	\$5.19	\$4.21	--
[47]	12/5/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.49	\$5.93	\$5.66	\$6.45	\$5.29	\$5.51	\$5.38	\$4.92	\$4.96	\$4.50	\$5.19	\$4.21	--
[48]	12/10/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.49	\$5.93	\$5.66	\$6.45	\$5.26	\$5.51	\$5.38	\$4.92	\$4.79	\$4.50	\$5.19	\$4.21	--
[49]	12/11/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.49	\$5.93	\$5.57	\$6.45	\$5.26	\$5.51	\$5.38	\$4.92	\$4.79	\$4.50	\$5.19	\$4.21	--
[50]	12/12/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.49	\$5.93	\$5.57	\$6.45	\$5.26	\$5.51	\$5.33	\$4.92	\$4.79	\$4.52	\$5.19	\$4.21	--
[51]	12/13/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.49	\$5.93	\$5.57	\$6.45	\$5.26	\$5.51	\$5.33	\$4.92	\$4.79	\$4.52	\$5.19	\$4.21	--
[52]	12/17/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.33	\$5.93	\$5.57	\$6.45	\$5.26	\$5.51	\$5.33	\$4.92	\$4.79	\$4.52	\$5.19	\$4.21	--
[53]	12/19/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.33	\$5.83	\$5.57	\$6.45	\$5.26	\$5.51	\$5.33	\$4.92	\$4.79	\$4.52	\$5.19	\$4.21	--
[54]	12/29/2012	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.33	\$5.83	\$5.57	\$6.45	\$5.26	\$5.51	\$5.40	\$4.92	\$4.79	\$4.52	\$5.19	\$4.21	--
[55]	1/7/2013	\$5.84	--	\$5.31	\$5.42	\$4.77	\$4.33	\$5.83	\$5.57	\$6.45	\$5.26	\$5.50	\$5.40	\$4.92	\$4.79	\$4.52	\$5.19	\$4.21	--
[56]	1/8/2013	\$5.84	--	\$5.31	\$5.09	\$4.88	\$4.33	\$5.83	\$5.57	\$6.45	\$5.26	\$5.50	\$5.40	\$4.92	\$4.79	\$4.52	\$4.74	\$4.21	--
[57]	1/14/2013	\$5.84	--	\$5.31	\$5.09	\$4.88	\$4.48	\$5.83	\$5.57	\$6.45	\$5.26	\$5.50	\$5.40	\$4.92	\$4.79	\$4.52	\$4.74	\$4.21	--
[58]	1/15/2013	\$5.84	--	\$5.31	\$4.98	\$4.88	\$4.48	\$5.83	\$5.57	\$6.45	\$5.26	\$5.50	\$5.40	\$5.01	\$4.91	\$4.86	\$4.74	\$4.21	--
[59]	1/16/2013	\$5.84	--	\$5.31	\$4.98	\$4.88	\$4.48	\$5.44	\$5.57	\$6.45	\$5.26	\$5.49	\$5.40	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[60]	1/17/2013	\$5.84	--	\$5.31	\$4.98	\$4.88	\$4.48	\$5.44	\$5.57	\$5.05	\$5.26	\$5.49	\$5.40	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[61]	1/18/2013	\$5.84	--	\$5.31	\$5.01	\$4.88	\$4.48	\$5.44	\$5.57	\$5.05	\$5.26	\$5.49	\$5.40	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[62]	1/21/2013	\$5.84	--	\$5.31	\$5.01	\$4.88	\$4.70	\$5.44	\$5.57	\$5.05	\$5.26	(\$0.57)	\$5.40	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[63]	1/22/2013	\$5.84	--	\$4.95	\$5.01	\$4.93	\$4.70	\$5.44	\$5.57	\$5.05	\$5.26	(\$0.57)	\$5.40	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[64]	1/24/2013	\$5.84	--	\$4.95	\$5.01	\$4.93	\$4.70	\$5.44	\$5.57	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[65]	1/25/2013	\$5.84	--	\$4.95	\$5.01	\$4.93	\$4.70	\$5.02	\$5.57	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[66]	1/28/2013	\$5.84	--	\$4.95	\$5.01	\$4.93	\$4.80	\$5.02	\$5.57	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.86	\$4.74	\$4.41	--
[67]	1/29/2013	\$5.84	--	\$4.95	\$5.01	\$4.93	\$4.80	\$5.02	\$5.57	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.86	\$4.79	\$4.41	--
[68]	1/31/2013	\$5.84	--	\$4.95	\$5.01	\$4.93	\$4.80	\$5.02	\$5.57	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.85	\$4.79	\$4.41	--
[69]	2/1/2013	\$5.84	--	\$4.95	\$5.01	\$4.93	\$4.80	\$5.02	\$4.83	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.85	\$4.79	\$4.41	--
[70]	2/4/2013	\$5.84	--	\$4.94	\$5.01	\$4.93	\$4.80	\$5.02	\$4.83	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.85	\$4.79	\$4.41	--
[71]	2/6/2013	\$5.84	--	\$4.94	\$5.01	\$4.93	\$4.80	\$5.02	\$4.83	\$5.05	\$5.26	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.85	\$4.79	\$4.70	--
[72]	2/7/2013	\$5.84	--	\$4.94	\$5.05	\$4.93	\$4.80	\$5.02	\$4.83	\$5.05	\$5.04	(\$0.57)	\$5.39	\$5.01	\$4.91	\$4.85	\$4.79	\$4.70	--

Notes and Sources:

From Thomson Reuters, as of April 8, 2019. Blanks indicate unavailable data.

[A]-[R] Data are for ticker RIO.AX. I collected data for the time period August 6, 2012 through February 14, 2013. Prices are in US \$.

[J]-[R] Contributor provided estimate to Thomson Reuters, but chose not to disclose its identity publicly.

Only displays dates on which at least one contributor revised its EPS forecast or discontinued / submitted an EPS forecast after a break in reporting.

Prices in red highlight are estimates that have been revised down. Prices in green highlight are estimates that have been revised up.

Blue shading highlights Rio Tinto's HY 2012 Earnings Release on August 8, 2012, investor seminar on November 29, 2012, and disclosures made on January 17, 2013. See Appendix C.1 for event dates.

Appendix C.10
Target Prices from Equity Analysts' Reports (RIO AU)

		Nomura																
		Baillieu	Bell		CGS-	Credit	Macquarie	Asian	Shaw	Contributor #								
		Holst	Potter	CBA	CIMB	Suisse	Research	Equity	and	17472	22760	23816	25632	32	36928	392	73704	888
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]	[P]	[Q]
[1]	8/7/2012	\$69.23	\$100.52	\$74.77		\$70.00	\$80.00	\$81.00	\$90.00	\$62.43	\$57.00	\$73.00	\$80.00	\$71.00	\$84.00	\$94.00		\$96.27
[2]	8/9/2012	\$67.10	\$100.52	\$74.77		\$70.00	\$80.00	\$81.00	\$90.00	\$62.43	\$57.00	\$73.00	\$80.00	\$71.00	\$84.00	\$94.00		\$96.27
[3]	8/10/2012	\$67.10	\$100.52	\$74.77		\$70.00	\$80.00	\$81.00	\$90.00	\$62.43	\$57.00	\$73.00	\$80.00	\$71.00	\$84.00	\$94.00		\$93.09
[4]	8/17/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$80.00	\$81.00	\$90.00	\$62.43	\$57.00	\$73.00	\$80.00	\$71.00	\$84.00	\$94.00		\$93.09
[5]	8/21/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$80.00	\$81.00	\$90.00	\$62.43	\$57.00	\$73.00	\$80.00	\$71.00	\$84.00	\$94.00		\$92.68
[6]	8/27/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$80.00	\$81.00	\$90.00	\$62.43	\$57.00	\$66.20	\$80.00	\$71.00	\$84.00	\$94.00		\$92.68
[7]	8/28/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$80.00	\$81.00	\$90.00	\$62.43	\$54.00	\$66.20	\$80.00	\$71.00	\$84.00	\$94.00		\$92.68
[8]	8/30/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$80.00	\$70.00	\$90.00	\$62.43	\$54.00	\$66.20	\$80.00	\$71.00	\$84.00	\$94.00		\$92.68
[9]	8/31/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$80.00	\$70.00	\$90.00	\$62.43	\$54.00	\$66.20	\$73.00	\$71.00	\$84.00	\$94.00		\$92.68
[10]	9/5/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$80.00	\$70.00	\$90.00	\$62.43	\$54.00	\$66.20	\$73.00	\$71.00	\$79.00	\$94.00		\$92.68
[11]	9/21/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$76.00	\$70.00	\$90.00	\$62.43	\$54.00	\$66.20	\$73.00	\$67.30	\$79.00	\$94.00		\$92.68
[12]	10/1/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$76.00	\$70.00	\$90.00	\$62.43	\$54.00	\$66.20	\$73.00	\$67.30	\$79.00	\$85.95		\$92.68
[13]	10/3/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$76.00	\$70.00	\$90.00	\$62.43	\$54.00	\$64.60	\$73.00	\$67.30	\$79.00	\$85.95		\$92.68
[14]	10/4/2012	\$67.10	\$100.52	\$72.00		\$70.00	\$76.00	\$70.00	\$90.00	\$62.43	\$54.00	\$64.60	\$73.00	\$67.30	\$75.00	\$85.95		\$92.68
[15]	10/10/2012	\$67.10	\$100.52	\$71.57		\$65.00	\$76.00	\$70.00	\$90.00	\$62.43	\$58.00	\$64.60	\$73.00	\$67.30	\$74.00	\$86.10		\$92.68
[16]	10/15/2012	\$67.10	\$100.52	\$71.57		\$65.00	\$76.00	\$70.00	\$90.00	\$62.43	\$58.00	\$64.60	\$73.00	\$67.30	\$74.00	\$86.10		\$92.68
[17]	10/16/2012	\$67.10	\$100.52	\$71.57		\$65.00	\$76.00	\$70.00	\$90.00	\$62.43	\$58.00	\$64.60	\$73.00	\$67.30	\$74.00	\$86.10		\$92.68
[18]	11/2/2012	\$67.10	\$100.52	\$71.57	\$92.71	\$65.00	\$76.00	\$70.00	\$90.00	\$62.43	\$58.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10		\$92.68
[19]	11/21/2012	\$67.10	\$100.52	\$71.57	\$89.98	\$65.00	\$76.00	\$70.00	\$90.00	\$62.43	\$58.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10		\$92.68
[20]	11/23/2012	\$67.10	\$100.52	\$71.57	\$89.98	\$65.00	\$76.00	\$70.00	\$90.00	\$62.43	\$61.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10	\$65.00	
[21]	11/29/2012	\$67.10	\$100.52	\$71.57	\$89.55	\$65.00	\$80.00	\$70.00	\$90.00	\$62.43	\$61.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10	\$65.00	
[22]	11/30/2012	\$67.10	\$100.52	\$71.57	\$89.55	\$65.00	\$80.00	\$70.00	\$90.00	\$62.43	\$61.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10	\$65.00	
[23]	12/3/2012	\$67.10	\$100.52	\$71.57	\$89.55	\$65.00	\$80.00	\$70.00	\$90.00	\$62.43	\$61.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10	\$65.00	
[24]	12/4/2012	\$67.10	\$100.52	\$71.57	\$89.55	\$65.00	\$80.00	\$70.00	\$90.00	\$54.05	\$70.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10	\$65.00	
[25]	1/4/2013	\$67.10	\$100.52	\$71.57	\$89.55	\$65.00	\$80.00	\$70.00	\$90.00	\$54.05	\$70.00	\$64.60	\$73.00	\$68.50	\$74.00	\$86.10	\$65.00	
[26]	1/7/2013	\$67.10	\$100.52	\$71.57	\$84.76	\$75.00	\$80.00	\$70.00	\$90.00	\$54.05	\$70.00	\$64.60	\$73.00	\$68.50	\$78.00	\$84.20	\$65.00	
[27]	1/11/2013	\$67.10	\$100.52	\$71.57	\$84.76	\$75.00	\$80.00	\$70.00	\$90.00	\$54.05	\$70.00	\$64.60	\$73.00	\$68.50	\$78.00	\$84.20	\$65.00	
[28]	1/14/2013	\$67.10	\$100.52	\$71.57	\$84.05	\$75.00	\$75.00	\$70.00	\$90.00	\$54.05	\$70.00	\$64.60	\$73.00	\$68.50	\$79.00	\$82.80	\$70.00	
[29]	1/15/2013	\$67.10	\$100.52	\$71.57	\$84.05	\$75.00	\$75.00	\$70.00	\$90.00	\$54.05	\$70.00	\$64.60	\$73.00	\$68.50	\$79.00	\$82.80	\$70.00	
[30]	1/16/2013	\$67.10	\$100.52	\$71.57	\$84.05	\$75.00	\$75.00	\$70.00	\$74.00	\$54.05	\$69.00	\$69.70	\$73.00	\$68.50	\$79.00	\$81.90	\$70.00	
[31]	1/17/2013	\$67.10	\$100.52	\$71.57	\$82.36	\$75.00	\$75.00	\$70.00	\$74.00	\$54.05	\$69.00	\$69.70	\$73.00	\$68.50	\$79.00	\$81.90	\$70.00	
[32]	1/22/2013	\$67.10	\$100.52	\$71.57	\$82.36	\$75.00	\$75.00	\$70.00	\$74.00	\$54.05	\$67.00	\$69.70	\$73.00	\$68.50	\$79.00	\$81.90	\$70.00	
[33]	1/23/2013	\$67.10	\$100.52	\$71.57	\$82.36	\$75.00	\$75.00	\$70.00	\$74.00	\$54.05	\$67.00	\$69.90	\$73.00	\$68.50	\$79.00	\$81.90	\$70.00	

Appendix C.10
Target Prices from Equity Analysts' Reports (RIO AU)

		Nomura																
		Baillieu Holst	Bell Potter Securities	CBA	CGS- CIMB Research	Credit Suisse (Australia)	Macquarie Research	Asian Equity Research	Shaw and Partners	Contributor #								
										17472	22760	23816	25632	32	36928	392	73704	888
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]	[P]	[Q]
[34]	1/24/2013	\$67.10		\$71.57	\$82.36	\$75.00	\$75.00	\$70.00	\$74.00	\$54.05	\$67.00	\$69.90	\$73.00	\$68.50	\$79.00	\$81.90	\$70.00	
[35]	1/28/2013	\$67.10		\$71.57	\$82.36	\$75.00	\$75.00	\$70.00	\$74.00	\$54.05	\$67.00	\$69.90	\$73.00	\$68.50	\$79.00	\$87.20	\$70.00	
[36]	1/30/2013	\$67.10		\$71.57	\$82.36	\$75.00	\$75.00	\$80.00	\$74.00	\$54.05	\$67.00	\$69.90	\$73.00	\$68.50	\$79.00	\$87.20	\$70.00	
[37]	2/6/2013	\$67.10		\$71.57	\$80.84	\$75.00	\$75.00	\$80.00	\$74.00	\$54.05	\$67.00	\$69.90	\$73.00	\$68.50	\$79.00	\$87.20	\$70.00	
[38]	2/13/2013	\$67.10		\$71.57	\$80.66	\$75.00	\$75.00	\$80.00	\$74.00	\$54.05	\$71.00	\$69.90	\$73.00	\$80.00	\$79.00	\$87.90	\$70.00	
[39]	2/14/2013	\$67.10		\$71.57	\$80.66	\$75.00	\$75.00	\$80.00	\$74.00	\$54.05	\$71.00	\$69.90	\$78.00	\$80.00	\$79.00	\$87.90	\$70.00	

Notes and Sources:

[A]-[Q] From Thomson Reuters, as of April 2, 2019. Blanks indicate unavailable data. Data are for ticker RIO.AX. I collected data for the time period of August 6, 2012 through February 14, 2013. Prices are in Australian \$.

[I]-[Q] Contributor provided estimate to Thomson Reuters, but chose not to disclose its identity publicly.

Only displays dates on which at least one contributor revised its target price or discontinued / submitted a target price after a break in reporting. Dates presented are the days the contributors released the analysts' report. Thomson Reuters typically receives the data from these reports one trading day after the release. I subtract one trading day from dates from Thomson Reuters data to correct for this delay.

Weekends and the nine holidays observed by NYSE as non-trading days are taken into account.

Prices in red highlight target prices that have been revised down. Prices in green highlight target prices that have been revised up.

Blue shading highlights Rio Tinto's HY 2012 Earnings Release on August 8, 2012, investor seminar on November 29, 2012, and disclosures made on January 17, 2013. If that date does not appear (due to the fact that no contributor changed its target price that day), then the next date with a target price change is highlighted in blue. See **Appendix C.1** for event dates.

Appendix C.11
Summary of Equity Analysts' Reactions to Rio Tinto's HY 2012 Earnings Release on August 8, 2012
August 8, 2012 through August 22, 2012

	Date	Contributor	Headline	Topic	Reactions
[1]	8/8/2012	BMO CAPITAL MARKETS	Modest Beat on H1/12 Underlying Earnings	Key Takeaways	<p>"Rio Tinto reported H1/12 underlying earning of US\$4.8B, or US\$2.56/share, up 5% on BMO Research's forecast of US\$2.43/share, but below consensus of US\$2.82/share."</p> <p>"EBITDA of US\$10.1B was 5% better than expected, with costs broadly in line with forecast."</p> <p>"BMO Research has not yet updated its forecasts; however, the slightly better-than-expected result from operations in the first half is likely to be reflected positively in H2/12 forecasts."</p> <p>"Based on the company's continued ability to deliver its iron ore and copper expansion plans on schedule and its lower exposure to cost inflation relative to its diversified peers, Rio Tinto remains one of BMO Research's preferred stocks"</p> <p>"Rio Tinto's result was slightly better than expected; however, it has not bucked the trend of diversified miners showing lower year-on-year earnings."</p> <p>"Rio Tinto's reasonable H1/12 vindicates BMO Research's view that the company is a key pick within the diversified sector."</p>
[1]	8/8/2012	BMO CAPITAL MARKETS	Modest Beat on H1/12 Underlying Earnings	RTCM	"Positively, first production at Benga, Mozambique, was achieved in June 2012, with commercial production expected in Q3/12"
[2]	8/8/2012	MERRILL LYNCH	Solid 1H, blue chip status confirmed	Key Takeaways	<p>"Rio Tinto reported solid 1H results confirming its status as one of the "blue chips" in the sector with solid, predictable performance from its key iron ore division."</p> <p>"EBITDA US\$10.1 bn, -29% YoY, +3% vs our estimate, -1% vs consensus. EPS adjusted US\$2.78, -30% YoY, +5% vs our estimate, +4% vs consensus."</p> <p>"Outlook: Positive in the face of economic uncertainty"</p> <p>"Minor adjustments to our EPS estimates today. 2012E EPS +0.8% to US\$5.53. 2013E EPS -5% to US\$5.58. NPV - 3% to GBp4076 / A\$64.40 (slightly higher capex). "</p> <p>"Table 2: Earnings Summary Underlying [Earning for Actual] H12012A = 5154US\$m, Underlying [Earning for BofAML estimate] BofAMLe H12012 = 4946US\$m"</p>
[2]	8/8/2012	MERRILL LYNCH	Solid 1H, blue chip status confirmed	RTCM	"Mozambique / Coking coal. Cooperation with other players (Anglo, Vale) on infrastructure probably makes sense although it is early days. Rio as a business is becoming much more positive on coking coal. Benga has started up, running about 3 months late but Rio reasonably comfortable with medium term view of business."

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[3]	8/8/2012	CANACCORD GENUITY	Deferred tax asset flatters reported EPS	Key Takeaways	<p>[Actual earnings: \$2.78EPS] [Contributor forecast earnings: \$2.51] "Adjusted EPS from Rio Tinto was 278cts, a beat versus our adjusted EPS estimate of 251cts and consensus of 259cts. The beat was driven by lower depreciation charges than expected plus the impact of a stronger performance from Rio's associate investments and lower underlying tax rates." "[M]anagement did not announce a buyback programme, in our view not surprising given the present capex programme and debt level of the company." "We maintain our target price of 4080p" "[I]nfrastructure projects are being accelerated where possible to provide some stimulus to the Chinese economy. If this is the case, then we would expect a short-term pick up in demand and hence metal prices. However, should this fail to offset weakness elsewhere in the economy (or larger than expected slowdowns elsewhere in the world) then the expected higher prices and hence higher cash flows may not materialise, reducing our valuations."</p>
[3]	8/8/2012	CANACCORD GENUITY	Deferred tax asset flatters reported EPS	RTCM	N/A
[4]	8/8/2012	CITIGROUP INC	Waiting for 4Q12 China Stimulus	Key Takeaways	<p>"Result was mixed against our estimates with EBITDA 4% below, but underlying NPAT 7% ahead driven by a low tax rate." "Underlying NPAT of US\$5.15b was 7% ahead of our US\$4.8b estimate (cons. US\$4.94b) driven by a lower-than-expected tax rate of 27%." "RIO result was below our estimate at the EBITDA and EBIT line, but boosted by a low tax rate to drive the better-than-expected result. [Underlying Net Earnings is 5,154US\$m, CITI estimate is 4,806US\$m]" "The key driver of lower earnings was prices, but higher costs were also a major contributing factor." "Net debt increased to US\$13.2b driven by the completion of the buyback, working capital build and capex." "Iron ore was the dominant earnings driver (90% of group), but still down 34% on 2H11 driven by lower prices and production." "Global growth is expected to be 3.3% in 2012 (Citi 3%)."</p>
[4]	8/8/2012	CITIGROUP INC	Waiting for 4Q12 China Stimulus	RTCM	N/A
[5]	8/8/2012	COWEN SECURITIES	METALS & MINING Morning Note	Key Takeaways	<p>"Rio Tinto reported 1H12 underlying EBITDA of \$10.1 Bn versus our \$9.5 Bn estimate and consensus of \$10.2 Bn. Variance from our estimate was largely due to better-than-expected performance from the copper (costs) and energy (costs and realization) segments. Full-year production guidance was roughly in line with our estimates. The company maintained its 2012 capex guidance of \$16 Bn, the majority being spent on expansion of Pilbara operations. We continue to favor RIO in the diversified mining space and believe its pursuit of low-cost growth, while competitors scale back projects, will serve the company well in the future."</p>
[5]	8/8/2012	COWEN SECURITIES	METALS & MINING Morning Note	RTCM	N/A

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	Date	Contributor	Headline	Topic	Reactions
[6]	8/8/2012	DEUTSCHE BANK	1H12 - Growing where it counts	Key Takeaways	<p>"The 1H result was slightly better than expected with underlying earnings of US\$5.2bn a touch ahead of our forecast US\$4.9bn"</p> <p>"It is clear that Rio has flexibility on capex. Guidance for 2012 is US\$16bn down from 'In excess of US\$16bn'..."</p> <p>"We have adjusted our 2012 earnings forecasts upwards by c. 4% reflecting the strong result from iron ore offsetting some cost pressures in aluminium and energy. Stronger TiO2 pricing and lower costs (due to the ZAR weakness) also increased our earnings estimates."</p> <p>"Our A\$94/sh PT is set in-line with our NPV (assumes an 8.9% WACC). Key risks include; weaker commodity prices and higher capex."</p> <p>"[T]hey expect to see signs of improvements in Chinese economic activity by the end of the year", mainly due to government stimulus measures. This is in-line with our views."</p> <p>"[W]e rate the stock a Buy, trading at a discount to our NPV."</p>
[6]	8/8/2012	DEUTSCHE BANK	1H12 - Growing where it counts	RTCM	<p>"The Benga mine in Mozambique will produce 400kt of coking coal in 2012. We were forecasting 580kt and have pulled our forecasts back. After drilling during the half Rio believes the exploration potential is much higher than initially expected, but it is likely to take longer to deliver the production growth due to infrastructure constraints and available internal cash flows."</p> <p>"The company stated that coal and infrastructure development in Mozambique was taking longer than expected and approvals were therefore likely to be pushed out."</p>
[7]	8/8/2012	JEFFERIES LLC	In-line Results, Watch Iron Ore and AUD	Key Takeaways	<p>"[R]esults were roughly in line with our expectations and with consensus. Based on our analysis, Rio shares are very attractively valued and positioned to outperform in 2H, but there are risks."</p> <p>"Exhibit 1: Rio Tinto 1H12 Summary Results 1H12 = 5,154US\$m, 1H12E Jef = 5,013US\$m [Underlying Earnings is 5,154, Jefferies Estimates is 5,013US\$m]"</p> <p>"Significant y/y declines in EBITDA and earnings for Rio can be attributed to a combination of lower prices and higher costs as margin compression in mining has been a key theme of this earnings season."</p> <p>"Falling prices and rising costs in iron ore could lead to significant downside risk to Rio's 2H12 earnings. Conversely, Rio could greatly benefit from a rising iron ore price and a weaker Aussie dollar in a global growth recovery scenario. In other words, we believe Rio has become a highly leveraged play on global growth."</p>
[7]	8/8/2012	JEFFERIES LLC	In-line Results, Watch Iron Ore and AUD	RTCM	<p>"[I]ncreased production at the recently developed Yarwun alumina and Benga coking coal assets."</p>

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	Date	Contributor	Headline	Topic	Reactions
[8]	8/8/2012	JP MORGAN	Rio Tinto Limited - 1H12 financial Results: solid performance	Key Takeaways	"RIO reported underlying earnings slightly ahead of consensus and JPM forecasts. Key takeaways include 1) no capital management, 2) no major impairments, and 3) 2012 capex guidance maintained. We remain positive on RIO from an investment point of view, but acknowledge the sector is unlikely to re-rate until broader macro conditions improve." "Solid 1H12 earnings, slightly ahead of expectations. RIO reported 1H12 underlying earnings of US\$5.154bn, 4% ahead of company compiled consensus of US\$4.935bn, and 2% above our US\$5.036bn estimate." "Overall, it was a solid result in our view containing no major surprises." "No major impairment charges were reported in Aluminium, with a broader review of carrying values taking place in 4Q12." "We believe RIO continues to look compelling from an investment point of view based on its discount to NPV, high returning projects, and flexible strategy." "Positive investment view – it won't re-rate overnight but we think it will happen"
[8]	8/8/2012	JP MORGAN	Rio Tinto Limited - 1H12 financial Results: solid performance	RTCM	N/A
[9]	8/8/2012	LIBERUM	Rio Tinto H1'12 Results	Key Takeaways	"Rio Tinto's H1'12 numbers were broadly in line, missing our EBITDA ests by 3% but beating at the net earnings line \$5.15bn (Lib \$4.95bn) due to a lower effective tax rate (27.4% vs. 29.6% previous) [Actual underlying earnings is 5,154US\$m and Liberum estimates is 4,956US\$m]. There were no changes to stated capex plans and with the half year dividend formulaic, no other big surprises. Management commentary has continued to be more positive than other (less China centric) majors, with the company still expecting a pick-up in demand from Q4." "Capex profile remains unchanged" "Management still anticipating Q4 uplift in demand, we agree" "We feel the traditional Q3 destocking in iron ore will be reversed in Q4, a view supported by Rio management"
[9]	8/8/2012	LIBERUM	Rio Tinto H1'12 Results	RTCM	N/A

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	Date	Contributor	Headline	Topic	Reactions
[10]	8/8/2012	RBC CAPITAL MARKETS	Rio Tinto plc - H1 2012 results	Key Takeaways	<p>"Rio Tinto's H1 2012 results were more or less in line with consensus with a small beat at the earnings line"</p> <p>"H1/12 earnings came in at \$5.1bn vs. RBC at \$5.3bn and consensus at \$4.9bn."</p> <p>"Balance sheet as expected"</p> <p>"While commodity markets remain volatile and the global economy is fragile Rio's order books remain full and the company expects to see signs of a pick up in Chinese growth by year-end."</p> <p>"The major contributors to the 30% fall in underlying earnings vs. H1/11 were a \$1.9bn hit from lower commodity prices and a \$400m hit from higher costs, including a \$12m additional charge for energy. These two items will remain the key focus for H2."</p> <p>"[W]e believe Rio stands to benefit strongly if iron ore prices start recovering with each \$10/t accounting for +\$2bn in pre-tax cash flow on an annual basis."</p> <p>"Rio's results carried no negative surprises with the commodity price and cost impacts largely expected by the market. With incremental capex projects intact the company offers production growth in H1 and FY2013 which should coincide with some stability, and perhaps improvement, in mineral prices. We retain our Outperform recommendation."</p>
[10]	8/8/2012	RBC CAPITAL MARKETS	Rio Tinto plc - H1 2012 results	RTCM	N/A
[11]	8/8/2012	RBS STRATEGY	Rio Tinto: An iron ore and copper story	Key Takeaways	<p>"The 1H12 underlying result of US\$5.2bn should be relatively well received by the market as it was not too far from the company compiled consensus of US\$4.9bn"</p> <p>"Iron ore's contribution to underlying earnings is now a massive 92%, which we feel will see RIO's share price reflecting spot iron ore prices in the short term rather than its underlying value."</p> <p>"There have been no major changes to our earnings forecasts as a result of 1H12 results."</p> <p>"RIO is generating strong cash flow due to its relatively low cost iron ore businesses and improving margins in copper. Furthermore, RIO's aggressive organic expansion plan underpins significant production growth in the coming years."</p> <p>"We maintain our Buy rating, and our target price has increased to A\$98.33 (from A\$94.43) which is similar to where it was prior to the latest production results."</p> <p>"No significant write downs – the decks have been cleaned or assets ring-fenced for the time being. Asset values come up for further review in 4Q12."</p> <p>"We have lowered near-term forecast earnings due to slightly higher costs, however the NPV and medium-term earnings have increased slightly due to changes in the assumptions for copper and iron ore business performance (primarily for achieved revenues)."</p>
[11]	8/8/2012	RBS STRATEGY	Rio Tinto: An iron ore and copper story	RTCM	N/A

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[12]	8/8/2012	UBS INVESTMENT BANK	H1 broadly in line, iron ore outlook key	Key Takeaways	<p>"H1 EBITDA fell 29% h/h to \$10.1bn (cons \$10.2bn, UBSe \$10.3bn) mainly due to lower commodity prices; underlying NPAT of \$5.15bn was 4% above consensus, benefitting from lower interest/tax."</p> <p>"We are attracted by Rio's valuation (0.7x NPV), growth profile, and cost position, though see c15% downside risk to 2012 EPS at spot (after recent fall in iron ore prices)."</p> <p>"On face value, the interim result was inline with expectations and relatively benign. Underlying earnings were US\$5,154m, 2% above our estimate of US\$5,072 and 4% above consensus of US\$4,935m according to Rio Tinto."</p> <p>"No capital management announcements. We were of the view that there was an outside chance, but given cash outflows exceeded cash inflows at present due to low commodity prices, our sense was that the market was not expecting a buyback to be announced."</p> <p>"[W]e share a similar view to Rio Tinto, that being that the recent Chinese stimulus initiatives are beginning to have an impact on the demand outlook for commodities. Our view is that, this is not expected to immediately be translated into improved physical demand for commodities over the short term (next 2-3 months)."</p> <p>"Our earnings changes reflect primarily the better than forecast result, driven by higher capitalised interest than forecast. We have made only minor changes to outer year forecasts as well. Our NPV comes down 3%, and our PT comes down in line with this, to £46/share."</p>
[12]	8/8/2012	UBS INVESTMENT BANK	H1 broadly in line, iron ore outlook key	RTCM	N/A
[13]	8/9/2012	BAILLIEU HOLST LTD	Interim ahead of expectations, it's all about iron ore	Key Takeaways	<p>"The better-than-anticipated result was due to lower tax, asset sale gains and less interest expense."</p> <p>"Iron ore contributed \$8.0 billion of the total EBITDA (US\$10.1 billion), with copper the next best. Rio is an iron ore company."</p> <p>"The impact of lower commodity prices and a marginally high Australian dollar reduced earnings by US\$1.7 billion, but the realised tax rate was less than the 27 percent for the first half."</p> <p>"Going forwards, it's going to be very difficult to forecast Rio's iron ore price"</p> <p>"RECOMMENDATIONS... BUY"</p>
[13]	8/9/2012	BAILLIEU HOLST LTD	Interim ahead of expectations, it's all about iron ore	RTCM	<p>"The Benga mine in Mozambique produced 80,000 tonnes (attributable to Rio) of thermal coal and 85,000 tonnes (attributable to Rio) of coking coal. Let's hope the initial production mix improves vis-à-vis hard coking coal versus thermal. Benga is not "commercial" yet so made no contribution during the half; the asset base is \$3.4 billion. Rio expects Benga to produce 400,000 tonnes of coking coal in 2013 but the ramp-up will be slower than previous guidance."</p>

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[14]	8/9/2012	CREDIT SUISSE	Capex moderates: Pilbara & Single A focused	Key Takeaways	<p>"We caught up with Rio Tinto CEO post the interim result who was overall cautious but confident the iron ore focus will reap healthy returns in the near and longer term."</p> <p>"Interim earnings of \$5.15bn came in ahead our own (\$4.7bn) and consensus (\$4.9bn) expectations."</p> <p>"We make only minor adjustments to EPS (3-4%) over forecast period."</p> <p>"Our positive view on Rio is predicated on the company's leading, low cost position in WA iron ore where capacity is on track to grow from 230Mtpa to 353Mt by mid-2015."</p> <p>"Balance sheet is strong with gearing at 17% (vs BHP at 27%) and the company is displaying a disciplined approach to capex to maintain the Single A credit rating and the progressive div policy. We believe spot iron ore prices at \$115/t have found a floor and we expect a recovery in 2H12 which should see Rio outperform large cap peers."</p> <p>"As we approach the investor seminar later in the year investors should think about the potential for incremental tonnes (5Mtpa) through low capex de-bottlenecking efforts in the Pilbara"</p> <p>"Lower commodity prices dragged the result down 34% vs pcp while cost inflation in WA iron ore remains high at 6.5% p.a."</p> <p>"Capex guidance of \$16bn for 2012 was maintained although capex spend is likely to be flat YoY as Rio adopts a more cautious approach."</p>
[14]	8/9/2012	CREDIT SUISSE	Capex moderates: Pilbara & Single A focused	RTCM	<p>"During the half Rio shipped first coal from Benga mine in Mozambique but the wider expansion plans will take longer than previously expected. Rio is guiding to 400Kt of coking coal in 2013 at low comparative costs given the low strip ratio."</p>
[15]	8/9/2012	MACQUARIE RESEARCH	Controlling the controllables	Key Takeaways	<p>"Underlying EBITDA of US\$10.1bn was in-line: The flagship Iron Ore business (US\$8.0b) was again predominant (as it is expected to be for the foreseeable future) and marginally ahead of our expectation. Across the other businesses, Aluminium (surprisingly) and Diamonds & Minerals were ahead of our expectations, Energy broadly in-line (although driven by a flagged asset sale), and Copper the disappointment (cost pressure driven)."</p> <p>"Net income of US\$5.154bn was 4.5% ahead of us and consensus: This outperformance at the bottom line appears to have been driven by a lower than expected tax rate"</p> <p>"[H]owever , the strong 1H earnings performance (courtesy of a lower tax rate than forecast) is likely to increase our FY12 forecasts by ~2-3%."</p> <p>"Overall, this was a solid operational performance (volumes up, costs under control, growth projects on-track); however , this was overridden by falling commodity prices which saw earnings fall 34% y/y."</p> <p>"RIO nevertheless also stressed that it is only looking at projects that 'will deliver value under any probable macroeconomic conditions. This perhaps suggests management does not believe the equity market shares its confidence in commodity prices"</p> <p>"Maintain Outperform rating and A\$80/sh price target"</p> <p>"Operating cash flow of US\$7.8bn was weaker than we were looking for"</p> <p>"MRRT deferred tax asset was smaller than we were expecting"</p> <p>"Management stressed that external cost pressures are falling but remain significant and well above historic levels."</p>

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[15]	8/9/2012	MACQUARIE RESEARCH	Controlling the controllables	RTCM	"First exports from Benga (Mozambique) were achieved in late June. Management's comments on ramp-up timing, expansion horizons, etc, were again very balanced/circumspect."
[16]	8/9/2012	MORGAN STANLEY	Rio Tinto Ltd 1H12 Results	Key Takeaways	<p>"The 1H12 result may have been to expectations on NPAT, dividend and capex – but some areas still require scrutiny, specifically the cash flow. However we retain a positive view on RIO, acknowledging that both its capex and our price deck are leveraged to a positive view on China."</p> <p>"Revenue of US\$27.8mn, EBITDA (underlying) of US\$10.0mn and NPAT (underlying) of US\$5.2mn were all broadly as expected. Interim dividend of US\$0.73/sh met guidance. As we expected, there was no capital management."</p> <p>"Cash could get tight if prices stay weak"</p> <p>"We maintain our Overweight rating on Rio – it's all about China"</p> <p>"NPAT (underlying) US\$5.2bn vs our estimate of US\$5.6 bn (-8%) - This was loosely in line with consensus, although consensus numbers (and ours) were lowered throughout the period on reduced commodity price instructions"</p> <p>"Risks to PT: The strength of Chinese fixed asset investments... Iron ore will account for 87% of Rio's EBIT in 2012; Execution on Oyu Tolgoi and Australian iron ore projects."</p> <p>"[T]he operating cash flow was so weak in 1H 2012 that Rio could not even finance its maintenance capex and interim dividend. That is a concern and needs to be watched closely."</p> <p>"Weaker commodity prices were the cause of lower earnings, and while volatility remains, Rio has a positive view on the long-term demand outlook."</p> <p>"We project MRRT payments only becoming significant after 2014."</p> <p>"Alcan impairments: these will be reviewed later in the year. No events so far require a review of impairments earlier than usual."</p>
[16]	8/9/2012	MORGAN STANLEY	Rio Tinto Ltd 1H12 Results	RTCM	"MOZAMBIQUE Guidance: expect 400kt production in 2012, but the ramp-up is likely to be slower than previously indicated. RIO believes there is scope for the future ramp-up/total to be greater based on the work recently done."

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[17]	8/9/2012	SHAW AND PARTNERS LIMITED	Onwards & Upwards	Key Takeaways	<p>"RIO announced a US\$5.154bn underlying earnings result, marginally up by \$250m on market expectations."</p> <p>"RIO's Pilbara iron ore network in WA is now operating at the increased capacity rate of 230Mtpa following completion of second low capital debottlenecking project."</p> <p>"Price Target reduced from \$90.00 to \$80.00. Buy recommendation maintained."</p> <p>"Commentary was stronger than we had expected for a good order book and stronger economic activity going into 2013."</p> <p>"Sentiment in the stock will follow the iron ore price with potential for a round of minor market earnings downgrades for the stock. We still believe in RIO's long term capital management and low cost operations. Consensus price targets are still are [sic] around \$80.00. This will be a stretch over the next 12 months but achievable longer term. Our recommendation remains a BUY with a medium risk rating."</p> <p>"The effect of price movements on all major commodities in 1H'12 was to decrease underlying earnings by US\$1,936m compared with 1H'11."</p> <p>"The effect of all currency movements was to increase underlying earnings relative to 1H'11 by US\$200m."</p> <p>"Volume increases in iron ore and coal enhanced earnings by US\$366m compared with 1H'11."</p>
[17]	8/9/2012	SHAW AND PARTNERS LIMITED	Onwards & Upwards	RTCM	N/A
[18]	8/9/2012	SOCIÉTÉ GÉNÉRALE	H1 2012 results a mixed bag: Mozambique disappoints but iron ore and MRRT reassure	Key Takeaways	<p>"The key takeaways ... are: 1) H1 2012 EBITDA was c.2% below SGe and consensus forecasts; 2) Rio Tinto management believes, and we agree, that iron ore prices have probably bottomed in the short run. This should provide support to iron ore focused stocks such as Rio Tinto; 3) Rio Tinto management guided for a 2013e underlying tax rate of close to 30%, which is in line with Rio Tinto's historical tax rate when the Mineral Resource Rent tax (MART) was not imposed."</p> <p>"Iron ore EBITDA was higher than our forecasts because of higher-than-expected realised prices."</p> <p>"In our NPV model for Rio Tinto, we value its aluminium assets at only \$7.2bn and see further downside risk to our NPV estimate. However, we note that Rio Tinto could announce more write-offs when it tests its aluminium assets for impairment along with its annual results... Clearly, there is need for more write-offs at Rio Tinto Alcan, in our opinion."</p>

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[18]	8/9/2012	SOCIÉTÉ GÉNÉRALE	H1 2012 results a mixed bag: Mozambique disappoints but iron ore and MRRT reassure	RTCM	"However, management sounded very cautious on the outlook for coal production and costs from Mozambique. As a result, we have reduced our expectations for the segment." "One clear disappointing takeaway from the conference call yesterday was that the company's coal expansion plans in Mozambique are proving too optimistic. Until a few weeks ago, Rio Tinto was guiding to saleable coal production reaching 2mtpa soon. However, when we asked management to provide guidance on production and costs for Mozambique, it remained somewhat noncommittal and talked mostly of downside risks instead of providing any specific numbers."
[19]	8/9/2012	CFRA EQUITY RESEARCH	Rio Tinto plc ADS	Key Takeaways	"S&P MAINTAINS STRONG BUY OPINION ON ADSS OF RIO TINTO PLC" "We lower our... target price by \$8 to \$63 to reflect a reduction to our estimates for 2012 and 2013, but view the ADSs as a compelling value at current levels." "Based on less optimistic assumptions for the price of copper and iron ore, we cut '12's estimate to \$6.97 from \$8.70 and '13's estimate to \$7.30 from \$8.44. RIO posts first half earnings per ADS of \$3.03 vs. \$4.27, on a 13% decline in sales, well below our \$4.52 forecast on lower commodity prices and higher than expected maintenance costs in the copper unit."
[19]	8/9/2012	CFRA EQUITY RESEARCH	Rio Tinto plc ADS	RTCM	N/A
[20]	8/13/2012	CANACCORD GENUITY	Full commitment to iron ore expansions	Key Takeaways	"Rio Tinto's iron ore expansions should give it a substantially larger, high margin business. Combined with the Oyu Tolgoi development and grade recoveries at Escondida, we expect EBITDA to grow 40% to 2015 from 2012, despite the expected headwind of slowly declining metals prices over the period." "We cut our EBITDA estimates slightly to reflect the company's recent 1H results." "Our price target falls to 4050p from 4080p, reflecting the cuts to our estimates made in light of the performance in 1H 2012. Lower EBITDA is nearly offset by lower debt levels in deriving our price target." "We note our price target is only 72% of our NAV of 5587p, highlighting the longer-term value we see on offer in the name." "Importantly for Rio Tinto, management appears to have been able to stabilise, or in the case of the Robe River operations even reduce, unit cash costs after a period of steady cost rises." "[S]igns that management has got to grips with unit cost pressures is promising." "Reduced EBITDA is driven mainly by the impact of much higher unit costs than expected from the Australian coal operations... We had anticipated that rising volumes would reduce unit cash costs and as a result of the performance in 1H 2012 have raised our cost expectations substantially."
[20]	8/13/2012	CANACCORD GENUITY	Full commitment to iron ore expansions	RTCM	"On our current estimates, Rio Tinto shares appear to be pricing in no EBITDA growth at all from its projects in development. Put another way, it implies that the volume benefits to 2015 from the iron ore (72Mtonnes), coal (7Mtonnes) and copper (305ktonnes) expansions are all offset by further cost inflation of 7% pa given our current price outlook."

Appendix C.11
Summary of Equity Analysts' Reactions to Rio Tinto's HY 2012 Earnings Release on August 8, 2012
August 8, 2012 through August 22, 2012

	Date	Contributor	Headline	Topic	Reactions
[21]	8/13/2012	NATIXIS S.A.	A solid performance but a shortage of triggers	Key Takeaways	<p>"Unsurprising H1 12 results (see table on next page). The group reported a deterioration in operating performances, as widely expected by the consensus."</p> <p>"We have trimmed our 2012/13e EPS estimates and our target price from 3,660p to 3,450p. We think it is too soon to take up positions on the stock, unless iron ore prices rebound significantly. Neutral rating reiterated."</p> <p>"The group delivered a quality set of H1 12 results. However, we believe the stock is lacking in positive momentum"</p> <p>"We have lowered our EPS estimates by respectively 0.6% and 1.1% for 2012e and 2013e. But we have raised our 2014 EPS estimate by 15% to fully factor in the increase in iron ore production expected by management."</p>
[21]	8/13/2012	NATIXIS S.A.	A solid performance but a shortage of triggers	RTCM	N/A
[22]	8/15/2012	GLOBAL MARKETS RESEARCH	Roundtable with RIO CEO	Key Takeaways	<p>"RIO CEO Tom Albanese's key message is that market conditions have deteriorated more than expected and that capital is being rationed. We also see a more subdued outlook in the next 12 months and have revised down iron ore price expectations by 15-20%."</p> <p>"A key feature of the 1 H result was that net cash flow was negative for the first time in over a decade. RIO spent more on capital projects than it generated from operating cash flow. As a result, RIO is reviewing all capital projects outside of the Pilbara 353Mt iron ore expansion and will ration capital."</p> <p>"The aluminium sector is severely challenged and requires capacity closures to bring the market back into balance. RIO continues to assess its asset base, and has identified a small number of assets that are cash flow negative. However, we do not believe that RIO is ready to make tough decisions."</p> <p>"We downgrade forecasts by 8% in CY12 and 13% in CY13. The major impact being a lower commodity price deck published separately today. If we used spot commodity prices, CY13 would be another 26% lower."</p> <p>"We view RIO as a restructuring opportunity in the same way that BHP was in the late-1990s. Over half of RIO's asset base is underperforming, but in our view, the glass is half full."</p> <p>"However, earnings momentum is negative and industry cost inflation and concerns over Chinese growth will weigh on sentiment. We set our price target at AUD75, by applying a 15% discount to our NPV of AUD89ps"</p>
[22]	8/15/2012	GLOBAL MARKETS RESEARCH	Roundtable with RIO CEO	RTCM	N/A

Appendix C.11
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August 8, 2012 through August 22, 2012

	Date	Contributor	Headline	Topic	Reactions
[23]	8/15/2012	SOCIÉTÉ GÉNÉRALE	Less relative upside to CDS now	Key Takeaways	"Weaker iron ore prices more than offset an increase in output to drive H1 2012 earnings at RIOLN markedly lower from H1 2011." "Looking forward, we expect weakening commodity prices to measurably impact ongoing earnings and net leverage for RIO and we continue to remain concerned about RIO's substantial dependence upon largely one product - iron ore – and a recently weakened price environment." "Of particular concern to us is the especially steep drop in spot iron ore prices toward the end of the quarter and into July and August 2012 coupled with further price weakness on the horizon as indicated by the current forward curve."
[23]	8/15/2012	SOCIÉTÉ GÉNÉRALE	Less relative upside to CDS now	RTCM	N/A
[24]	8/19/2012	MORNINGSTAR INC.	Fighting Words Accompany a Weaker First Half 2012 Profit	Key Takeaways	"Underlying first half 2012 earnings fell 34% to USD 5.2 billion, in line with our most recent forecast and market expectations. Admittedly that forecast was given a hefty haircut in recent weeks upon revelations aluminium costs were still high." "Somewhat surprisingly, the aluminium division reported better-than-expected USD 30 million earnings before interest and tax (EBIT). Still paltry in the context of 2007's USD 40 billion Alcan takeover, but better than a loss." "We retain our positive stance with the fair value unchanged and fiscal 2012 and 2013 earnings forecasts similarly stable." "The tone [on the Chinese economy] differs from recent commentary which has always been cautious on the near term outlook. It must be said we are a little more cautious, predicting an ongoing gradual decline in commodity prices, iron ore fines from current AUD 120 per tonne levels down to AUD 80 per tonne long term." "The decline in first half 2012 earnings chiefly reflects lower prices across the board."
[24]	8/19/2012	MORNINGSTAR INC.	Fighting Words Accompany a Weaker First Half 2012 Profit	RTCM	N/A

Appendix C.11
Summary of Equity Analysts' Reactions to Rio Tinto's HY 2012 Earnings Release on August 8, 2012
August 8, 2012 through August 22, 2012

	Date	Contributor	Headline	Topic	Reactions
[25]	8/20/2012	RBC CAPITAL MARKETS	Capex, Costs and Commodity Price...	Key Takeaways	<p>"Prices and Costs the focus of H1: Rio posted a 30% fall in underlying earnings in H1/11 driven by lower commodity prices and higher costs. We expect cost pressures to remain a key theme in future periods, with CEO Tom Albanese noting a 6.5% pa growth rate in Australian costs, and a 3% pa growth rate for the company as a whole. However given softer materials prices opex inflation may be peaking in local currencies."</p> <p>"We have increased our opex costs for H2/12 and future periods across Rio's divisions..."</p> <p>"Valuation: We have reviewed our capex forecasts and increased our estimates, particularly in iron ore, which is likely to comprise ~45% of capex in the near term. Our valuation has also been impacted by increased opex costs... Our NAV estimate reduces by 18% to £33.91, down from £41.37..."</p> <p>"Recent macro weakness has seen falling commodity prices, which has turn impacted Rio's earnings and share price. While the current environment remains nervous, we remain positive on the outlook for iron ore and see an improvement in Q4 following an expected slowing of steel production in Q3. Our view on Rio remains positive and we retain our Outperform rating and updated £37 PT."</p>
[25]	8/20/2012	RBC CAPITAL MARKETS	Capex, Costs and Commodity Price...	RTCM	N/A

Notes and Sources:

This appendix summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group and were published between August 8, 2012 and August 22, 2012. To compile the reports summarized in this appendix, I followed the following steps:

- (i) From the list of analysts' reports produced in discovery, provided by Rio Tinto, or identified in my searches of the Capital IQ and Thomson ONE platforms, I removed duplicate reports where duplicates were defined as (a) a report with the same Contributor, Date, Headline, and Number of Pages as another report, (b) a report with the same Contributor, Date, and number of Pages as another report, but no Headline, or (c) a report within one day of another report with the same Contributor, Headline, and Number of Pages. If duplicate reports had different prices, I removed the more expensive report. If duplicate reports had different Dates (per criteria (b) above), I removed the report with the earlier Date.
 - (ii) I excluded reports from News Bites Pty Limited, Marketline, Riskmetrics, Thomson Stretevents, Eva Dimensions, Wright Investors Service, Globaldata, and Sadif-Investment Analytics SA because I found that they either were not analysts' reports or did not provide analysts' commentary on company events.
 - (iii) Of the remaining reports, I selected one report per contributor per day. To do so, I first identified additional duplicates by removing "Ltd," "plc," "Plc," "Limited," "Rio.L," or "Rio.AX" from the headline. For each Date and Contributor, if there was a report produced in discovery or provided by Rio Tinto available, I selected that report. If there was a longer report also available for that Contributor and Date, that report was also selected, resulting in two reports for that Date. If no reports were produced in discovery or provided by Rio Tinto for a Date and Contributor combination, I selected the report with the greatest Number of Pages. If there were multiple reports with the same Number of Pages, I selected the least expensive report.
- After reviewing the 36 reports produced by following this process, I found that 2 reports were duplicates of other reports. Removing these, I identified 25 reports that discuss the HY 2012 Earnings Release. Note that I did not identify any reports published on August 21, 2012 or August 22, 2012 that discuss the HY 2012 Earnings Release.

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[1]	11/29/2012	BMO CAPITAL MARKETS	Rio Tinto - Highlights from Investor Seminar	Key Takeaways	<p>"Rio Tinto held an investor day, focusing on its Iron Ore and Diamonds and Minerals divisions and its cost saving initiatives. The company opened with its economic outlook, whereby it continues to expect short-term macroeconomic volatility, led by uncertainty in the U.S. and Europe. The company has a 'guardedly optimistic' view on China and forecasts +8% GDP growth in 2013. Long term, iron ore demand in China is expected to peak by 2030 at ~1.4Bt."</p> <p>"Versus 2012 forecasts, the company aims for savings of over US\$5B in operating and support costs by end 2014, a US\$1B reduction in exploration and evaluation costs until end 2013 and US\$1B of sustaining capex reductions in 2013 (from ~US\$4B)."</p> <p>"BMO views the announcements positively, showing that the company has focused on delivering efficiency from its existing operations, without compromising future growth options."</p>
[1]	11/29/2012	BMO CAPITAL MARKETS	Rio Tinto - Highlights from Investor Seminar	RTCM	N/A
[2]	11/29/2012	MERRILL LYNCH	Big cost savings, + 17-22% potential EPS uplift	Key Takeaways	<p>"The key positive surprise for us is the US\$5bn total cost savings target to be achieved by 2014... To the extent this is achievable, we see it as a major stock specific driver for Rio Tinto, with a potential EPS impact of +17% in 2013 and +22% in 2014 if fully achieved. We maintain our Buy rating and GBp3900 price objective."</p> <p>"We estimate that the increase in production [in the Pilbara] adds another potential +4% uplift to EPS in 2013, and +3% uplift in 2014."</p> <p>"Rio believes that GDP in China will rise above 8% in 2013. This is consistent with our above-consensus call for Chinese GDP next year at 8.1%."</p> <p>"Shareholder returns vs capex. This is an important question and very broad feedback from shareholders. Are on journey to a more balanced approach – expect no further capex returns in the near term."</p> <p>"Asset carrying value. Review areas that have GW ie Ally and RIV, or where there has been a triggered event. Might be impairment in ally, possibly coal but not highlighted."</p> <p>"Risks to our price objective are 1) commodity prices, which could be lower than our forecasts, resulting in lower-than-forecast earnings, 2) unsuccessful project execution, and 3) operational problems at mines and smelters."</p>
[2]	11/29/2012	MERRILL LYNCH	Big cost savings, + 17-22% potential EPS uplift	RTCM	<p>"[M]ozambique. Barging is an option but lower than a rail corridor."</p> <p>"Review areas that have GW ie Ally and RIV, or where there has been a triggered event. Might be impairment in ally, possibly coal but not highlighted."</p>

Appendix C.12
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November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[3]	11/29/2012	CGS-CIMB/ CIMB RESEARCH	2012 Investor Seminar - Sydney	Key Takeaways	<p>"The key takeaways were 1) RIO's WA iron ore expansion project is the pre-eminent growth project across our mining coverage with high returns and significant benefits of optionality that were evident today, 2) Cost cutting across the board has been targeted with over US\$4bn in new cost savings in CY13, and 3) Going forward, RIO will compare all potential project returns against returning cash to shareholders."</p> <p>"We shave our FY12 EPS forecasts for lower ERA estimates and aluminium price but raise FY13-15 for higher iron ore production. This has little impact on our NPV-based target price. We maintain our Outperform rating."</p> <p>"We are in favour of RIO's new approach for projects under consideration – that they must demonstrate superior returns, including when compared with returning cash to shareholders – rather than pursuing marginally accretive projects and ignoring the value of cash back in the hands of shareholders."</p>
[3]	11/29/2012	CGS-CIMB/ CIMB RESEARCH	2012 Investor Seminar - Sydney	RTCM	<p>"CFO Guy Elliot indicated that there is the potential for writedowns of asset carrying values at the end of the year; the most likely at risk is the aluminium division given the weak aluminium market (and prices). The value of the assets associated with the Riversdale acquisition (Mozambique coal) could also be at risk of a writedown. Neither of these would be positive for sentiment towards the stock."</p>
[4]	11/29/2012	CITIGROUP INC ^a	Rio Tinto Ltd Alert: Key Takeaways from Investor Seminar	Key Takeaways	<p>"The focus was on cost reductions across operating expenditure, capex and exploration, along with incremental production gains in iron ore. RIO is Buy rated with a A\$73/share target price."</p> <p>"The Company noted a slight improvement in the macro environment since its October 10th Investor day, raising its 2013 Chinese GDP growth forecast to 'above 8%' from slightly below 8%, Citi estimates 7.8%."</p> <p>"Key risks to our projected earnings, cash flows and target price relate to weaker-than-expected commodity prices/economic growth and currency fluctuations."</p>
[4]	11/29/2012	CITIGROUP INC ^a	Rio Tinto Ltd Alert: Key Takeaways from Investor Seminar	RTCM	N/A
[5]	11/29/2012	CITIGROUP INC ^b	Rio Tinto PLC Alert: 2 out of 3, a good start	Key Takeaways	<p>"Rio Tinto announced a \$5 billion cost reduction target along with rationing back of capex, during its capital markets day in Australia. In our opinion this is a positive step, with the market wanting the mining companies to cut back on capex, cut costs and return cash to shareholders... Neutral recommendation Target Price \$53.53."</p> <p>"In our model we have unit costs falling around 6% on volume growth of 27% this equates to around \$3 billion of cost, the reversal of one offs on our calculations could be around \$1 billion, along with lower turnover costs through employment, group procurement, cost cutting the remainder. So a positive step for Rio's but unlikely to make a material change to earnings numbers for consensus in our view."</p> <p>"We consider a number of risks to our investment thesis, driven by the high financial leverage in the company offset by operational and geographical diversification. Key risks to our projected earnings, cash flows and target price relate to weaker-than expected commodity prices/economic growth and currency fluctuations."</p>
[5]	11/29/2012	CITIGROUP INC ^b	Rio Tinto PLC Alert: 2 out of 3, a good start	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[6]	11/29/2012	DEUTSCHE BANK	Rio Tinto Ltd Investor Seminar: Ambitious Cost Targets	Key Takeaways	<p>"The key focus of the investor seminar was the targeted US\$5bn in cost savings, mostly in unit cost reductions in the Pilbara, and some US\$2bn of discretionary spending cuts."</p> <p>"We already build in a large proportion of this reduction with the expansions in the Pilbara... In our experience, it will be difficult to reconcile these cost savings come 2014, but the fact that there are hard targets, which are most likely linked to remuneration, shows a strong intent by the company."</p> <p>"Our GBP21.50/sh PT is set in-line with our NPV... Key risks include weaker commodity prices and higher capex."</p>
[6]	11/29/2012	DEUTSCHE BANK	Rio Tinto Ltd Investor Seminar: Ambitious Cost Targets	RTCM	N/A
[7]	11/29/2012	JP MORGAN	Sydney Seminar - in cash conservation mode	Key Takeaways	<p>"Rio Tinto's investor seminar highlighted the company is very much in cash conservation mode with significant operating, capital, and exploration cost saving plans outlined. Importantly, the key iron ore expansion project is on track and an additional 7Mtpa of capacity has been achieved through the system at minimal capex. While we were left craving more detail on the cost saving plans, the key takeaways were positive and reinforce our Overweight recommendation and preference for RIO amongst the diversified miners."</p> <p>"[W]e have not materially altered forecasts, given a lack of clarity on where savings will come from. It would be a great outcome (theoretically +25% to our FY14E EPS)."</p> <p>"[W]e have made a variety of minor adjustments to our model which result in a 7% upgrade to our FY13E earnings although our NPV is essentially unchanged and we retain our existing £43.20/sh Dec-13 price target."</p> <p>"[W]e see: 1) an attractive long-term valuation (~20% discount to BHPB on P/NPV), 2) a value-enhancing growth proposition (attributable iron ore production to increase 49% in 2011-16E) and 3) balance sheet flexibility, which we believe provides room for increasing shareholder returns and opportunistic M&A."</p>
[7]	11/29/2012	JP MORGAN	Sydney Seminar - in cash conservation mode	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[8]	11/29/2012	LIBERUM	Liberum Capital Mining Daily	Key Takeaways	<p>"Hints of supply side discipline and potential for major cost reductions: We saw two key positives emerging Rio Tinto's management presentation overnight; a potential hint of supply side discipline in relation to its Pilbara expansion to 360mt and clear targets for opex savings vs. 2012."</p> <p>"Targeted cash cost reductions of c.\$2bn in 2013 and c.\$3.2bn in 2014 could have a major impact on our forecasts: These are ambitious targets and very meaningful for a company delivering c.\$19bn in EBITDA in both 2013 and 2014 on our numbers. Running these cost savings verbatim through our model suggests c.20% upside to EPS at first glance. We expect to make revisions to our numbers after speaking to the company."</p> <p>"RIO has de-rated on a MtM basis vs. the rest of the sector in the past two months as iron ore prices have bounced to \$120/t, reflecting in our opinion the market's caution over its heavy iron ore exposure. Signs of supply side discipline in this regard could be a catalyst for re-rating in our view."</p> <p>"Running these cost savings verbatim through our model suggests c.20% upside to EPS at first glance. We expect to make revisions to our numbers"</p>
[8]	11/29/2012	LIBERUM	Liberum Capital Mining Daily	RTCM	N/A
[9]	11/29/2012	MORGAN STANLEY	Rio Tinto Plc Quick Comment: RIO offers some encouraging numbers	Key Takeaways	<p>"RIO briefing seminar with a focus on Iron ore and Minerals was a positive event."</p> <p>"We have not revised our projections and estimates but on balance the risk appears to be to the upside for our NPAT and cashflow estimates."</p> <p>"Positive items for us to work with: 1. Targeted cash cost savings (real, pre tax) of US\$3.25bn p.a. by 2014 from the 2012 base. This equates to a potential ~17% lift for our existing NPAT. These savings are in addition to the US\$1.6bn goal by 2015 on the Aluminium assets. 2. Expansion capex in for Pilbara iron ore cut by US\$1bn (in 2015) with capacity growth plans maintained. 3. RIO is aiming for Pilbara unit costs to reduce +20% to ~US\$35/wmt CFR by 2020. 4. Project investments and returns will now be weighed up against returning cash to shareholders."</p>
[9]	11/29/2012	MORGAN STANLEY	Rio Tinto Plc Quick Comment: RIO offers some encouraging numbers	RTCM	"Some other items to consider: 1. Potential write-downs on assets carrying goodwill - Aluminium (US\$5.4bn) and Mozambique Coal (US\$530mn)."

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[10]	11/29/2012	RBC CAPITAL MARKETS	Sharpening the Hatchet	Key Takeaways	<p>"Rio's investor day in Sydney highlights \$5bn of opex savings, capex and exploration cuts"</p> <p>"Rio intends to cut \$5bn from the current cost base (FY12E: \$37bn) by 2014... Based on our forecasts, this could increase EPS by 11 % in FY 13 and 17% in FY 14."</p> <p>"Focus remains on maintaining its Single 'A' credit rating and progressive dividend; CFO Guy Elliott noted that sacrifices would be made elsewhere to save these. New projects will be required to show a superior return than returning cash to shareholders."</p> <p>"Rio came out fighting today by announcing its intention to make significant cuts to its operating costs, sustaining capex and exploration costs. Cost inflation, particularly for its Australian assets, has increased rapidly over recent periods and clearly this is something which Rio needs to control in order to deliver increasing returns to its shareholders and maintain its +3% dividend yield."</p> <p>"Overall, we remain positive on Rio, which offers attractive exposure to iron ore and late cycle growth commodities... We retain our Outperform rating and £34 price target."</p> <p>"We have adjusted our model to reflect a reduction in exploration expenditure and sustaining capex as guided... Our 2013E EPS increases to \$7.18 from \$6.99; our NA V increases to £31.28/sh from £30.98/sh."</p>
[10]	11/29/2012	RBC CAPITAL MARKETS	Sharpening the Hatchet	RTCM	<p>"As part of its annual impairment review, Rio could recognise writedowns on assets, with aluminium a likely candidate. Rio currently holds goodwill of \$5.8bn for its aluminium assets and \$560m for its Mozambique coal assets."</p>
[11]	11/29/2012	UBS INVESTMENT BANK	The Rio of Old...back to what it does best	Key Takeaways	<p>"[I]t was pleasing to hear the CFO say that Rio would now benchmark its growth projects against returning cash to shareholders and that it would be a balanced approach. Rio is listening."</p> <p>"Rio Tinto is targeting cumulative savings of more than US\$5bn of operating and support costs by the end of 2014... The US\$5bn is an aggregate number with the sustainable number being closer to US\$3.3bn (pre-tax) assuming current market conditions."</p> <p>"Valuation: Buy, well positioned to benefit from recovery in iron ore prices"</p> <p>"The key messages in our view were: (1) Balancing growth vs returns... (2) 10% cost out program... (3) Iron ore division - High value optionality... (4) US\$2bn off capex and E&D... (5) Chinese domestic iron ore supply is highly price sensitive... (6) Achieving better than spot prices... (7) Mineral sands prices rolling off deliver step change in earnings."</p> <p>"Valuation: Buy, well positioned to benefit from recovery in iron ore prices"</p> <p>"If one were to project these cost savings into the future, the NPV benefit would be -US\$23bn (~US\$12.50ps)."</p> <p>"We have not adjusted our iron ore modelling assumptions at this stage following the updated timing and expansion potential. We therefore highlight at this point, the upside to our iron ore modelling."</p>
[11]	11/29/2012	UBS INVESTMENT BANK	The Rio of Old...back to what it does best	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[12]	11/30/2012	JEFFERIES LLC	A Catalyst for Rio	Key Takeaways	<p>"Rio Tinto's management announced aggressive opex and capex cuts at the company's investor seminar in Sydney yesterday. Our analysis indicates Rio can deliver c40% EPS growth from 2012 to 2015 even if commodity prices do not increase from average 2012 levels as significant volume growth and cost cutting should lead to better unit margins and higher overall profitability for the company. We would buy shares of Rio now."</p> <p>"Rio is now guiding to \$5bn of cumulative operating and support cost savings by the end of 2014, with a run rate at the end of this period well above \$3bn per year."</p> <p>"Recent macro data indicate that growth is accelerating in China's industrial economy. Increased fixed asset investment should lead to stronger steel demand and higher iron ore prices in 2013. Other commodities are also likely to benefit from stronger Chinese demand next year. For Rio Tinto, the combination of higher volumes, higher realised prices, and lower unit costs should lead to significant earnings growth."</p> <p>"On our estimates, Rio is trading at 0.89x NPV, and our NPV conservatively does not include any value for growth projects that have not yet been approved by Rio's board."</p> <p>"[O]ur analysis indicates that the market in general does not believe the Rio earnings growth story. Investors are generally very cautious on the iron ore price outlook and unconvinced that Rio's earnings can grow without commodity prices rising. This scepticism has created an opportunity for investors to buy shares of Rio at a steep valuation discount to the sector averages (see Exhibit 2), in our view"</p>
[12]	11/30/2012	JEFFERIES LLC	A Catalyst for Rio	RTCM	N/A
[13]	11/30/2012	LIBERUM	Liberum Capital Mining Daily	Key Takeaways	<p>"Cost improvements translate to c.10-14% EPS upgrades"</p> <p>"Yesterday RIO announced annualised cost savings amounting to c.US\$2.2bn in 2013 and a further c.US\$1bn from 2014. Disclosure on the origin of the savings remains limited, however sources include increased productivity, operational efficiencies, reduced support costs and overheads."</p> <p>"Cost improvements translate to c.10-14% EPS upgrades"</p> <p>"[W]e don't expect RIO to underperform the sector from here. However, cash conservation is the flavour of the moment and a similar PR push on costs is also likely from the rest of the miners – we don't think RIO is the only major with scope to reduce costs with a renewed focus."</p> <p>"Disclosure on the origin of the savings remains limited, however sources include increased productivity, operational efficiencies, reduced support costs and overheads"</p>
[13]	11/30/2012	LIBERUM	Liberum Capital Mining Daily	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[14]	11/30/2012	MACQUARIE RESEARCH	Spending less - delivering more	Key Takeaways	<p>"RIO held its annual investor day in Sydney: The focus was on the iron business (which will be driven by Pilbara volume additions) and titanium dioxide (which at an earlier stage is still looking to ride the price cycle)."</p> <p>"U\$5bn of cumulative cost savings targeted by end-2014... If achieved, this would equate to a ~10% cost reduction across the business, with the coal and aluminium divisions being singled out for special attention. However, while well intentioned, progress against these targets is likely to be almost impossible to track given its reliance on 'current market conditions'."</p> <p>"Capital allocation – investments now competing with buybacks: Despite growing capital constraints, RIO reaffirmed its commitment to both its progressive dividend and its A credit rating which is seeing growth, sustaining and exploration capex all pushed out."</p> <p>"Iron ore – spending less to deliver more"</p> <p>"We have increased earnings forecasts by 3%, 5% and 10% in 2012, '13, and '14 respectively to reflect the incremental Pilbara capacity and the cost saving initiative."</p> <p>"NAV rises 4.7% to A\$96.51/sh: This jump again reflects incremental Pilbara capacity and lower sustaining capex (this adds ~A\$3.2/sh) and the cost saving initiative (which adds ~A\$1/sh)."</p>
[14]	11/30/2012	MACQUARIE RESEARCH	Spending less - delivering more	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[15]	11/30/2012	SOCIÉTÉ GÉNÉRALE	Sharp rally likely in Rio Tinto shares after investor seminar	Key Takeaways	<p>"We have become even more positive on Rio Tinto shares after its investor seminar yesterday. The key takeaways from the seminar are: 1) Rio Tinto has entered a belt tightening mode. The company is planning to cut its sustaining capex in 2013e by \$1bn, while also reducing its Pilbara expansion capex by \$1bn without any reduction in the planned output. 2) The company is planning to make cumulative cost savings of \$5bn by 2014. While we have not modelled it in our base case, even partial delivery of the plan could be a significant positive catalyst for Rio Tinto shares. 3) Titanium Di-oxide legacy contract expiry and the subsequent likely increase in realised prices may result in an at least \$700m increase in company EBITDA in 2013e vs 2011 according to our estimates. We had previously modelled only a \$450m increase. 4) The company also indicated that it had increased nameplate iron ore capacity at Pilbara by 7mtpa (to 237mtpa) via productivity gains and debottlenecking, with little incremental capex."</p> <p>"Titanium Di-oxide legacy contract expiry and the subsequent likely increase in realised prices may result in an at least \$700m increase in company EBITDA in 2013e vs 2011 according to our estimates."</p> <p>"We are turning less bearish on the mining sector after a series of positive data points from China"</p> <p>"We are increasing our target price for Rio Tinto to 3,660p from 3,430p to reflect higher earnings forecasts."</p> <p>"Rio Tinto also announced that its is targeting cumulative savings of more than US\$5bn of operating and support costs by the end of 2014 compared with expected costs in 2012, based on current market conditions and stable operating conditions. This is a very encouraging goal. If Rio Tinto can indeed deliver more than \$3bn of savings in 2013 (as it plans) and sustain this going forward as well, it could create more than 20% potential upside to our target price."</p>
[15]	11/30/2012	SOCIÉTÉ GÉNÉRALE	Sharp rally likely in Rio Tinto shares after investor seminar	RTCM	N/A
[16]	11/30/2012	ZACKS INVESTMENT RESEARCH	Zacks Company Report	Key Takeaways	<p>"We upgrade Rio Tinto Plc. from Underperform to Neutral based on the cost saving initiatives the company has undertaken, along with the divestiture programs the company follows so rigorously."</p> <p>"The company's efforts to control costs are paying off, where the costs have increased only marginally compared to its peers. Rio is also in a process of shutting down its operations in areas where either the costs are high or the environment is not suitable for operations."</p>
[16]	11/30/2012	ZACKS INVESTMENT RESEARCH	Zacks Company Report	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[17]	12/4/2012	CREDIT SUISSE	Cost determination impresses	Key Takeaways	<p>"Following a review to our earnings post the Investor Day we upgrade earnings (+5% 2012, +13% 2013-14) on cost savings, higher copper volumes and mineral sands earnings (remodelled)."</p> <p>"[U]pgrading 2013E-14 earnings by an average 13.5% due to 1) Iron ore capacity guidance of 360mt in 2017 with LT costs guided to around \$35/t CFR as scale benefits flow through (from \$47/t currently), 2) Favourable LT outlook for mineral sands (despite current weakness), highlighting the opportunity to expand its 2.2mt TiO2 capacity by 50%, 3) Aggressively seeking cost savings of 10-15% in Australian Coal."</p> <p>"\$5bn in savings over the next two years: Although the Investor Seminar was to highlight its Iron ore and Mineral Sands businesses, it was the cost savings that stole the show."</p> <p>"Rio Investor Day; more cost saves to come; Cost saves become a key focus, iron ore front and centre; Additional US\$5bn in pre-tax cost saves targeted by end 2014. Rio announced expanded cost savings targets; the 2013 initiatives will be achieved over 2 years and amount to -\$4bn with an additional \$1bn in 2014."</p> <p>"The major divisional highlights were: ...Aggressively seeking cost savings of 10-15% in Australian Coal and, While cost savings targets are unchanged within Aluminium, further asset write-downs seem inevitable."</p> <p>"Rio has hinted that it is, perhaps, more willing to hand back money to shareholders through capital management initiatives (dividends/buybacks)."</p>
[17]	12/4/2012	CREDIT SUISSE	Cost determination impresses	RTCM	<p>"Rio said that it would look to phase larger projects in emerging markets to help manage risk (Mozambique coal, Simandou iron ore)."</p>
[18]	12/5/2012	MORNINGSTAR INC.	Rio Pulling in the Horns	Key Takeaways	<p>"At its recent investor seminar Rio Tinto warned of an uncertain and volatile short-term outlook, nothing new there, though with an expected fourth-quarter pick-up in Chinese fixed-asset investment. Longer term, Rio remains bullish on global commodity consumption with China remaining the key driver until at least the mid-2020s."</p> <p>"We broadly agree with Rio's view of the world and expect the scenario to support a gradual pull-back in commodity prices to levels nonetheless above long-term historical averages."</p> <p>"The company says it is balancing value-accretive investment with returns to shareholders. We don't think this necessarily translates to higher dividends. Cut-backs in expenditure and operating costs should allow the dividend to be sustained, in line with the progressive dividend policy, despite falling commodity prices."</p> <p>"No change to our AUD 90 per share fair value estimate. Rio remains materially undervalued."</p> <p>"[N]ow a focus on costs is required. By 2015, Rio expects its capital expenditure to be half the 2012 peak of USD 16 billion."</p> <p>"Sustaining capital expenditure will decline by USD 1 billion in 2013, and no new major project approvals are planned in the near term."</p> <p>"Rio also targets over USD 2 billion in cash cost savings in 2013, increasing to USD 3.3 billion in 2014 versus 2012."</p> <p>"Sustaining capital expenditure will decline by USD 1 billion in 2013, and no new major project approvals are planned in the near term."</p>
[18]	12/5/2012	MORNINGSTAR INC.	Rio Pulling in the Horns	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[19]	12/7/2012	HSBC	Deconstructing RIO	Key Takeaways	<p>"We are at the bottom end of consensus views for iron ore prices but we still like Rio Tinto as a stock."</p> <p>"We maintain our OW rating on Rio Tinto and raise our target price (based on DCF / EV/EBITDA) from GBP35.2 to GBP36.2 following a review of longer-term production growth and capex commitments."</p> <p>"Upside risk from cost reduction: RIO's recent investor seminar on 29 November supports a number of positive aspects to the stock, in our view. We have not incorporated RIO's goal of reducing operating costs by USD5bn by 2014, from a base of 2012 and our estimates and valuations remain based on total costs increasing c3%pa through to 2015... This cost-cutting program could raise our 2014 EBITDA estimate by 20%, but we believe it is best, for now, to wait for firm evidence of progress."</p> <p>"In addition, price expectations for iron are growing and an unexpected drop in spot prices could lead the stock to underperform the market and its peers."</p> <p>"We believe that the aluminium assets are vulnerable to further writedowns (and management has indicated this was possible in aluminium at year end), but it should be remembered that RIO's total book value for assets is USD68Bn, comfortably under the market valuation of its equity."</p> <p>"It was clear to us from RIO's investor seminar on 29 November that the coal business will be a key target for cost reductions."</p>
[19]	12/7/2012	HSBC	Deconstructing RIO	RTCM	"In addition, we add USD5bn [of value] for RIO's undeveloped coal assets in Mozambique (it bought Riversdale Mining in 2011 for USD5bn)." ^a
[20]	12/10/2012	SOCIÉTÉ GÉNÉRALE	Trading Update - Animal spirits are returning to the mining sector	Key Takeaways	<p>"Given positive developments in China, we expect mining stocks to rally. In particular, we reiterate our strong positive stance on Rio Tinto."</p> <p>"Rio Tinto is our top pick in the sector because it is trading at a significant discount to its peers (especially BHP Billiton). In addition, the company recently announced a number of steps to cut costs and rationalize capex, which are likely to be a positive for the stock (please refer to our note dated 30 Nov, 'Sharp rally likely in Rio Tinto shares after investor seminar' for more details)."</p>
[20]	12/10/2012	SOCIÉTÉ GÉNÉRALE	Trading Update - Animal spirits are returning to the mining sector	RTCM	N/A

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Headline	Topic	Reactions
[21]	12/11/2012	CHARLES STANLEY & CO. LTD.	Croesus - Rio Tinto (Accumulate)	Key Takeaways	<p>"Capital Markets Day (29 November): Normally we would not write a note about the Rio Capital Markets day since the company usually takes the opportunity just to provide a little more in-depth view of some or all of its different divisions. However, on this occasion management announced some major cost cutting measures, as well as highlighting what it expects to be a significant change in the profitability of the Diamonds and Minerals division. The iron ore and energy divisions were covered as well, more in the usual fashion, ie no dramatic news."</p> <p>"Rio is the last of the majors to announce a reduction in capex, inter alia, as part of a general move towards shareholder returns at the expense of investment. In this it is undoubtedly responding to pressure from investors."</p> <p>"Cash savings: Rio intends to make savings of about \$5bn as follows, and these are in addition to the \$1.25bn (over \$1.6bn is now targeted) savings/growth in the aluminium division it has already announced as a target to be achieved by 2015"</p> <p>"Capital allocation: In addition, when making capital expenditure decisions on investing funds, management will continue to require the expenditure to add value by achieving a positive return net of a minimum hurdle rate."</p> <p>"...Rio is very serious about shareholder value, to the extent that it might be quite content to defer some projects for quite some time in favor of raising the dividend and perhaps buying back shares."</p> <p>"But short term metal prices are uncertain and paying out a little more to shareholders, possibly at the expense of current capex, is a lower risk strategy – which we welcome. The shares moved up fairly smartly after the announcement, and have kept going."</p> <p>"Offsetting this, however, is management's more shareholder friendly attitude to capital allocation, the quality of Rio's assets and quite a high degree of optionality, and on that basis we maintain an Accumulate recommendation."</p>
[21]	12/11/2012	CHARLES STANLEY & CO. LTD.	Croesus - Rio Tinto (Accumulate)	RTCM	<p>"Q3 production was fairly strong and generally in line with or ahead of market estimates. Of the major products: ...thermal coal was +21% owing to ramping up at one mine and another (in Mozambique) coming on line."</p> <p>"CFO Guy Elliott also noted that he would expect that at the year end there will be a goodwill write down in aluminum, and possibly another business (eg coal in Mozambique)... As these will be non-cash items, and we would assume that they will not impact on borrowing covenants, they may have little impact. However, they will impact reported profits, which may provide a good launch pad for attacking costs."</p> <p>"However, these three projects [Mozambique, Oyu Tolgoi, and Simandou], two of which will be starting commercial production in 2013, are all world class in size and cost position."</p>

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

Date	Contributor	Headline	Topic	Reactions
[22] 12/13/2012 ^b	JP MORGAN	European Metals & Mining: Stop digging a hole for yourself - 2013 outlook	Key Takeaways	<p>"RIO remains top pick... RIO combines high-quality assets, solid growth, reasonable long-term balance sheet flexibility and sector-leading capital discipline/cost control messaging while trading at a 10-15% discount to BHP on key metrics."</p> <p>"RIO has announced aggressive US\$5bn cost savings targets. Limited FCF generation implies no capital returns in 2013 (beyond normal dividends), but emerging cost saving initiatives combined with strong capital discipline messaging, could help to drive a re-rating."</p> <p>"We forecast iron ore and copper will dominate earnings in 2013... Each of the diversified large caps are carrying divisions with significant operational leverage (RIO aluminium, AAL platinum, BHP coking coal)."</p> <p>"RIO's notably more aggressive cash conservation stance at their investor briefing in Sydney last week has also helped to offset some of the commodity price-related reduction seen through the majority of the year."</p> <p>"We consider RIO to be at the vanguard for the next wave of technology advances via automation of mining and logistics at its WA iron ore mines, which should transform productivity and labour costs."</p> <p>"We reduce our RIO FY12E and FY13E forecasts by 2% and 5% due to our lower coal price forecasts... Our NPV-based Dec-13 price target falls modestly to £42.00/sh due to lower coal price assumptions."</p> <p>"More recently RIO has followed suit and raised the game with ambitious (albeit opaque) \$5bn cumulative cost saving initiatives, implying a ~10% reduction in FY14E gross operating expenses, announced at its investor briefing on 29th November."</p> <p>"On the face of it, management teams have responded to the first part of the wish list, with a noticeable change in rhetoric on capital allocation evident, led by BHP and RIO."</p> <p>"However, with the renewed focus on capital discipline it is increasingly difficult for management teams to justify pursuing projects ahead of capital returns without strong justification. In that context we expect RIO clearly stating that projects are in direct competition for capital with shareholder returns is a refrain that will spread across the sector."</p>
[22] 12/13/2012 ^b	JP MORGAN	European Metals & Mining: Stop digging a hole for yourself - 2013 outlook	RTCM	"Beyond iron ore, RIO's key development assets are Oyu Tolgoi (copper) and Mozambique (coking coal) with first production at both in 2013."

Appendix C.12
Summary of Equity Analysts' Reactions to the November 29, 2012 Investor Seminar
November 29, 2012 through December 12, 2012

Date	Contributor	Headline	Topic	Reactions
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Notes and Sources:

This appendix summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group and were published between November 29, 2012 and December 12, 2012. To compile the reports summarized in this appendix, I followed the following steps:

(i) From the list of analysts' reports produced in discovery, provided by Rio Tinto, or identified in my searches of the Capital IQ and Thomson ONE platforms, I removed duplicate reports where duplicates were defined as (a) a report with the same Contributor, Date, Headline, and Number of Pages as another report, (b) a report with the same Contributor, Date, and number of Pages as another report, but no Headline, or (c) a report within one day of another report with the same Contributor, Headline, and Number of Pages. If duplicate reports had different prices, I removed the more expensive report. If duplicate reports had different Dates (per criteria (b) above), I removed the report with the earlier Date.

(ii) I excluded reports from News Bites Pty Limited, Marketline, Riskmetrics, Thomson Streetevents, Eva Dimensions, Wright Investors Service, Globaldata, and Sadif-Investment Analytics SA because I found that they either were not analysts' reports or did not provide analysts' commentary on company events.

(iii) Of the remaining reports, I selected one report per contributor per day. To do so, I first identified additional duplicates by removing "Ltd.," "plc," "Plc," "Limited," "Rio.L," or "Rio.AX" from the headline. For each Date and Contributor, if there was a report produced in discovery or provided by Rio Tinto available, I selected that report. If there was a longer report also available for that Contributor and Date, that report was also selected, resulting in two reports for that Date. If no reports were produced in discovery or provided by Rio Tinto for a Date and Contributor combination, I selected the report with the greatest Number of Pages. If there were multiple reports with the same Number of Pages, I selected the least expensive report.

After reviewing the 30 reports produced by following this process, I found that 3 reports were duplicates of other reports. Removing these, I identified 22 reports that discuss the November 2012 Investor Seminar.

- [a] The value cited for RTCM in this report was used in a one-time sum of the parts valuation of Rio Tinto that HSBC performed as a sense-check and is not the value for RTCM used by HSBC to derive its target price or other valuation metrics. As explained by HSBC in the report: "Our sum of the parts is deliberately not the conventional earnings multiple method (which is dependent on commodity views), but instead on other metrics – including a benchmark to peers in terms of valuations per tonne of production, through cycle multiples and other metrics. The aim here is to sense-check RIO's major businesses in relation to some publically traded peers. We have not changed our underlying valuation methodology, which is based 75% on a long-run DCF and 25% of 2013 EV/EBITDA." (HSBC, "OW: Deconstructing RIO," December 7, 2012, pp. 7, 12.)
- [b] This report was dated December 12, 2012 in the Capital IQ database; however, the date listed on the report is December 13, 2012.

Exhibit 1
Gross Sales Revenue and Underlying Earnings by Product Group
2009 through 2012

<i>Gross Sales Revenue in Millions of US Dollars</i>				
Product Group^a	2009	2010^b	2011^b	2012
Aluminium	\$8,701	\$11,313	\$12,159	\$10,105
Copper	\$6,220	\$7,797	\$7,634	\$6,661
Diamonds & Minerals	\$2,618	\$3,477	\$3,654	\$4,056
Energy	\$4,869	\$5,446	\$7,003	\$5,783
<i>Coal</i>	\$3,870	\$4,397	\$5,872	\$5,008
Iron Ore	\$12,598	\$23,582	\$29,475	\$24,279
Other Operations	\$9,897	\$10,151	\$8,246	\$6,730
Consolidated Sales Revenue:	\$40,262	\$55,171	\$60,537	\$50,967
<i>Underlying Earnings in Millions of US Dollars^c</i>				
Product Group^a	2009	2010^b	2011^b	2012
Aluminium	-\$260	\$611	\$442	\$3
Copper	\$1,874	\$2,530	\$1,932	\$1,092
Diamonds & Minerals	\$800	\$204	-\$162	\$119
Energy	\$1,167	\$1,187	\$1,074	\$283
Iron Ore	\$4,126	\$10,313	\$13,267	\$9,242
Other Operations	-\$232	\$237	-\$120	-\$528
Total Underlying Earnings for Reporting Segments:	\$7,475	\$15,082	\$16,433	\$10,211
Total Underlying Earnings:	\$6,298	\$13,987	\$15,549	\$9,303
Total Net Earnings:	\$4,872	\$14,238	\$5,826	-\$2,990

Exhibit 1
Gross Sales Revenue and Underlying Earnings by Product Group
2009 through 2012

Notes and Sources:

- [a] The Product groups are defined by Rio Tinto as follows: (i) the Aluminium product group consists of bauxite, alumina, and aluminium; (ii) the Copper product group consists of copper, gold, and silver; (iii) the Diamonds & Minerals product group consists of diamonds, borates, and titanium dioxide; (iv) the Energy product group consists of coal and uranium; and (v) the Iron Ore product group consists of iron ore and salt.
- [b] In Rio Tinto's 2012 Annual Report, Rio Tinto restated some of these gross revenue and underlying earnings figures to reflect the transfer of assets across product groups. In addition, gross revenue for 2011 and 2010 have been restated to "exclude amounts relating to product sold by the Group to an equity accounted unit and subsequently sold to third parties." This analysis presents the restated figures for 2010 and 2011 for gross revenue and underlying earnings.
- [c] Rio Tinto uses underlying earnings to assess the performance of product groups. Rio Tinto calculates underlying earnings by removing from net earnings the "[p]rofits less losses on acquisitions/disposal of interests in businesses," "[i]mpairment charges/reversals," "[p]rofit... after tax from discontinued operations," "[e]xchange and derivative gains and losses," and any other "credits and charges" that "require exclusion in order to provide additional insight into the underlying business performance" of each product group.
Rio Tinto 2011 Annual Report, pp. 152-153, 209; Rio Tinto 2012 Annual Report, pp. 160-162, 219.

Exhibit 2
Summary of Rio Tinto U.S. Dollar-Denominated Bonds^[1]
As of December 31, 2012

Bond No.	Issuer	ISIN	Total Principal (millions)	Coupon Rate	Moody's Rating	S&P Rating	Issue Date	Maturity Date	Term (years)	Percent of Days Traded	Average Daily Volume
	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
1	RT Finance (USA) Limited	'AB99	\$100	7.125%	A3	A-	3-Dec-93	1-Dec-13	20	0.8%	48.0
2	RT Alcan Inc.	'AN50	\$100	7.250%	N/A	A-	23-Oct-98	1-Nov-28	30	3.2%	2075.3
3	RT Alcan Inc.	'AQ81	\$400	7.250%	N/A	A-	20-Mar-01	15-Mar-31	30	16.7%	687.7
4	RT Alcan Inc.	'AT21	\$500	5.200%	N/A	A-	3-Dec-03	15-Jan-14	10	46.8%	1028.0
5	RT Alcan Inc.	'AU93	\$750	6.125%	N/A	A-	3-Dec-03	15-Dec-33	30	30.2%	1316.3
6	RT Alcan Inc.	'AV76	\$500	5.000%	N/A	A-	25-May-05	1-Jun-15	10	35.7%	812.8
7	RT Finance (USA) Limited	'AC07	\$1,750	6.500%	A3	A-	25-Jun-08	15-Jul-18	10	82.5%	3683.6
8	RT Finance (USA) Limited	'AD89	\$750	7.125%	A3	A-	25-Jun-08	15-Jul-28	20	37.3%	798.5
9	RT Finance (USA) PLC	'AE62	\$2,500	5.875%	A3	A-	25-Jun-08	15-Jul-13	5	97.6%	1193.6
10	RT Finance (USA) Limited	'AF38	\$2,000	8.950%	A3	A-	14-Apr-09	1-May-14	5	92.9%	3747.3
11	RT Finance (USA) Limited	'AH93	\$1,500	9.000%	A3	A-	14-Apr-09	1-May-19	10	92.1%	2330.9
12	RT Finance (USA) Limited	'AJ59	\$500	1.875%	A3	A-	28-Oct-10	2-Nov-15	5	69.8%	2048.8
13	RT Finance (USA) Limited	'AK23	\$1,000	3.500%	A3	A-	28-Oct-10	2-Nov-20	10	88.1%	1385.2
14	RT Finance (USA) Limited	'AL06	\$500	5.200%	A3	A-	28-Oct-10	2-Nov-40	30	68.3%	2891.7
15	RT Finance (USA) Limited	'AM88	\$700	2.500%	A3	A-	17-May-11	20-May-16	5	80.2%	1019.7
16	RT Finance (USA) Limited	'AN61	\$1,000	4.125%	A3	A-	17-May-11	20-May-21	10	65.1%	1504.6
17	RT Finance (USA) Limited	'AP10	\$500	2.250%	A3	A-	14-Sep-11	20-Sep-16	5	77.8%	1854.2
18	RT Finance (USA) Limited	'AQ92	\$1,150	3.750%	A3	A-	14-Sep-11	20-Sep-21	10	98.4%	1548.7
19	RT Finance (USA) PLC	'AA43	\$500	1.125%	A3	A-	19-Mar-12	20-Mar-15	3	60.3%	2036.0
20	RT Finance (USA) PLC	'AB26	\$500	2.000%	A3	A-	19-Mar-12	22-Mar-17	5	64.3%	4172.5
21	RT Finance (USA) PLC	'AC09	\$1,000	3.500%	A3	A-	19-Mar-12	22-Mar-22	10	83.3%	3453.7
22	RT Finance (USA) PLC	'AD81	\$500	4.750%	A3	A-	19-Mar-12	22-Mar-42	30	60.3%	3228.4
23	RT Finance (USA) PLC	'AE64	\$1,250	1.625%	A3	A-	16-Aug-12	21-Aug-17	5	98.1%	11353.8
24	RT Finance (USA) PLC	'AF30	\$1,000	2.875%	A3	A-	16-Aug-12	21-Aug-22	10	96.2%	15563.7
25	RT Finance (USA) PLC	'AG13	\$750	4.125%	A3	A-	16-Aug-12	21-Aug-42	30	93.3%	10864.9

Exhibit 2
Summary of Rio Tinto U.S. Dollar-Denominated Bonds^[1]
As of December 31, 2012

Notes and Sources:

Currency: U.S. dollar.

All bonds have a \$1,000 Face Value and semi-annual coupon payment frequency.

Rows shaded grey show Rio Tinto's most actively traded bonds. These bonds traded on at least 85 percent of potential trading days in the six month period prior to January 17, 2013 (July 17, 2012 - January 15, 2013) or from the issue date if the issue date is less than six months prior to January 17, 2013.

[B] From Capital IQ. Only the last 4 characters of the ISIN are shown.

[C], [D] From Capital IQ.

[E], [F] From Capital IQ. Ratings as of January 17, 2013. N/A indicates that as of January 17, 2013, Moody's did not have a rating available for this bond.

[G] From Capital IQ. The trade date of each bond is used for the issue date.

[H] From Capital IQ.

[I] The closest rounded year when subtracting [H] From [G].

[J] Number of days the bond traded divided by the number of potential trading days in the six month period prior to January 17, 2013.

[K] Average daily volume is the total volume a bond was traded divided by the number of days that bond was traded. Volume data are from Bloomberg.

[1] As of fiscal year-end 2012, Rio Tinto also reported two Euro-denominated bonds and one Pound Sterling-denominated bond outstanding. (Rio Tinto Finance Plc Euro Bonds 2.0 percent due 2020, Rio Tinto Finance Plc Euro Bonds 2.875 percent due 2024, Rio Tinto Finance Plc Sterling Bonds 4.0 percent due 2029). *See* Rio Tinto 2012 Annual Report, p. 179.

Exhibit 3
Timeline of Selected Public Events Related to RTCM and ADR Closing Price
December 1, 2010 through March 28, 2013

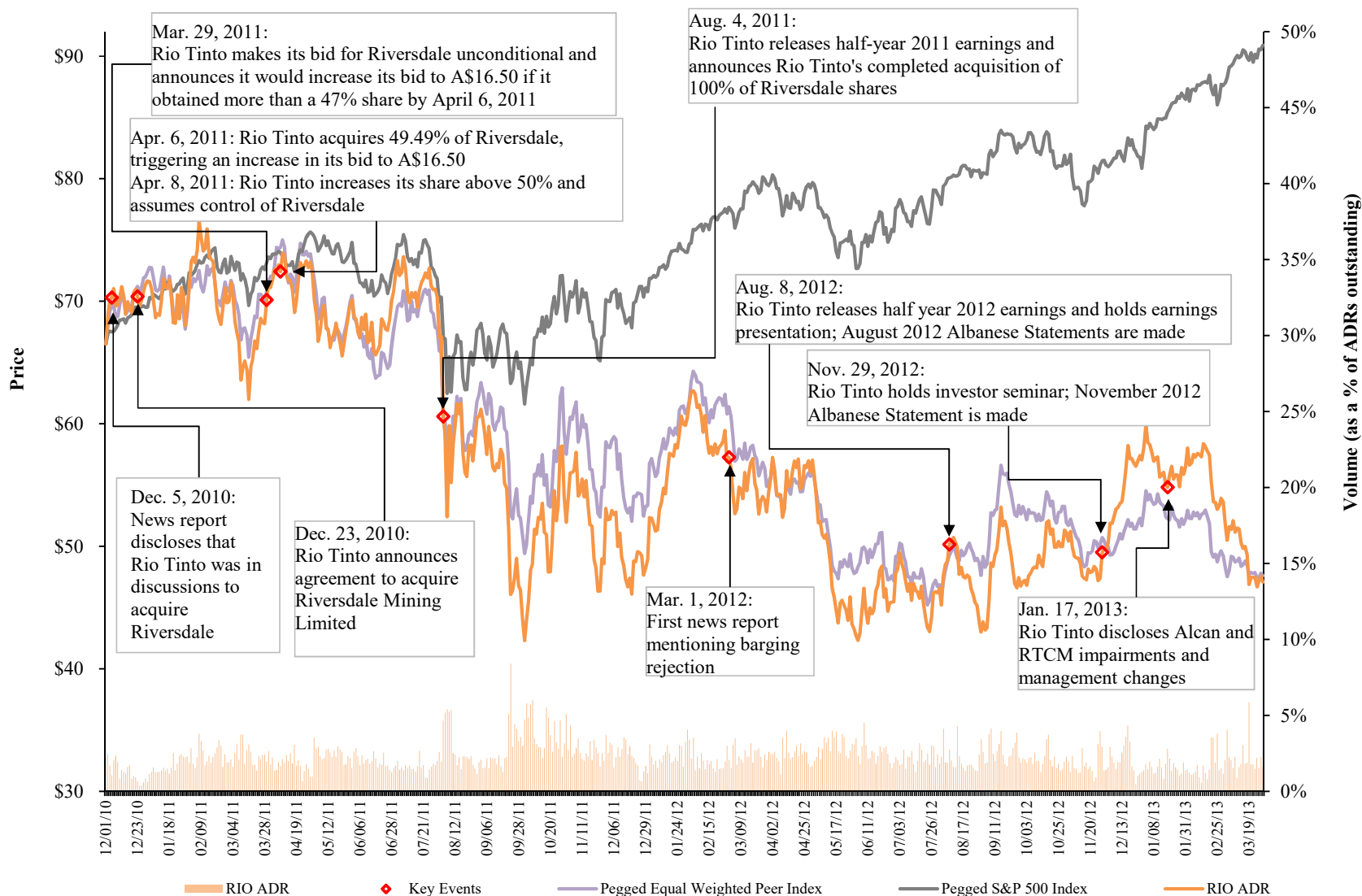


Exhibit 3
Timeline of Selected Public Events Related to RTCM and ADR Closing Price
December 1, 2010 through March 28, 2013

Notes and Sources:

I calculate Rio Tinto, PLC's ADR volume as a percentage of total ADRs outstanding.

The Equal Weighted Peer Index includes the U.S.-traded stocks of peer firms identified in Rio Tinto's 2011 Annual Report, p. 98 (Alcoa, Anglo American, Barrick Gold, BHP Billiton, Freeport-McMoRan, Newmont Mining, Vale do Rio Dolce, and Xstrata). The index includes two ADRs for BHP Billiton, one for BHP Billiton PLC and one for BHC Billiton LTD.

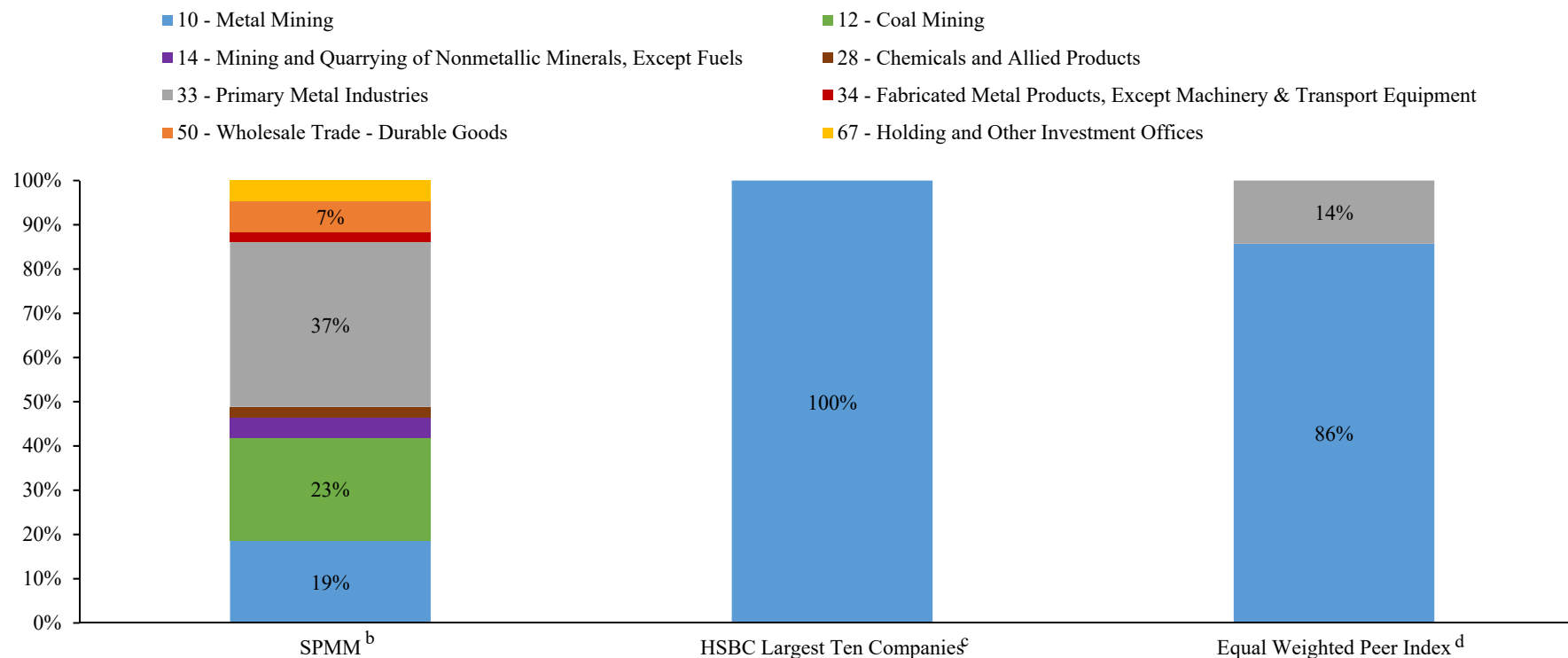
The two BHP Billiton ADRs are assigned a half weight each.

I peg the S&P 500 Index and the Equal Weighted Peer Index to Rio Tinto, PLC's ADR price as of December 1, 2010.

Price and volume data for Rio Tinto, PLC's ADR are from CRSP (the Center for Research in Security Prices, at the University of Chicago). Market and industry data are from CRSP Bloomberg, and Thomson Reuters.

Details regarding the events shown in this exhibit are provided in **Appendix C.1**.

Exhibit 4
Composition of the SPMM Index (Used by Metz), the HSBC Global Mining Index,
and the Equal Weighted Peer Index by SIC Major Group^a



Notes and Sources:

- [a] The composition of each index is calculated based on the number of constituents in each SIC Major Group as a percentage of the total number of index constituents. Rio Tinto's SIC Major Group is 10 - Metal Mining. The SIC Major Group is the first two digits of the company's SIC code. SIC codes are determined using the COMPUSTAT database. If the information is not available in the COMPUSTAT database, the SIC code is obtained from the SEC's Edgar website. See notes on **Appendix C.4**.
- [b] The SPMM Index was composed of 43 unique constituents as of April 8, 2011. See **Appendix C.4**.
- [c] The full constituent list of the HSBC Global Mining Index is not available; however, the largest ten companies in the index as of April 2010 and July 2013 are publicly available. The largest ten companies on these two dates are the same except that Xstrata was replaced with Glencore Xstrata as of July 2013 after it merged with Glencore in May 2013. Therefore, this exhibit shows the composition of the largest ten companies in the index by SIC Major Group; however, in calculating the composition of the index by SIC Major Group, I exclude both Xstrata (as its SIC code cannot be determined) and Glencore Xstrata (as its SIC code 8880 refers to unknown industry) as well as Rio Tinto and BHP Billiton PLC (as BHP Billiton Ltd is already counted as a constituent). See **Appendix C.4**.
- [d] The Equal Weighted Peer Index includes the following companies identified by Rio Tinto as comparator firms in its 2011 Annual Report: Alcoa, Anglo American, Barrick Gold, BHP Billiton, Freeport-McMoRan, Newmont Mining, Vale do Rio Dolce, and Xstrata. For purposes of calculating the composition of the index by SIC Major Group, I exclude Xstrata as its SIC code cannot be determined. See **Appendix C.4**.
 Bloomberg. Thomson Reuters. COMPUSTAT. HSBC Global Mining Index Fact Sheet, April 30, 2010; HSBC Global Mining Index Fact Sheet, July 31, 2013. United States Department of Labor, "SIC Division Structure," available at https://www.osha.gov/pls/imis/sic_manual.html; Edgar Company Filings, available at <https://www.sec.gov/edgar/searchedgar/companysearch.html>.

Exhibit 5
Abnormal Returns Following Rio Tinto's Announcement That It Had Acquired A Majority Stake in RTCM on April 8, 2011

	Regression Model			
	Metz Model SPMM INDEX	Modified Metz Model SPMM INDEX	Alternative Industry Indices	
	[A]	[B]	HSBC Global Mining Index [C]	Equal Weighted Peer Index [D]
R_M	1.331 (6.90)	1.349 (6.95)	0.954 (6.73)	0.627 (3.95)
R_{IND}	0.448 (5.11)	0.441 (5.05)	0.916 (11.39)	0.948 (11.71)
Constant	-0.002 (-1.44)	-0.002 (-1.66)	-0.001 (-1.57)	-0.001 (-1.30)
Observations	118	120	120	120
Adj. R^2	0.673	0.668	0.808	0.814
Abnormal Returns				
April 8, 2011	2.96%	3.02%	1.25%	1.66%
t - statistic	(2.52)	(2.53)	(1.37)	(1.85)

Notes and Sources:

Model: $R_{it} = \alpha + \beta_1 R_{Mt} + \beta_2 R_{INDt} + \varepsilon_{it}$

The regression model in column [A] was estimated using percent returns. I estimated regressions in columns [B] – [D] using logged returns.

Estimation period: 120 trading days prior to April 8, 2011 (October 18, 2010 through April 7, 2011).

The estimation period in column [A] excludes days on which earnings announcements and quarterly operations reviews were released. Columns [B] – [D] include all trading days within the estimation period.

Securities data are from CRSP, Bloomberg, Capital IQ, and Thomson Reuters.

t -statistics are in parentheses. t -statistics for estimated coefficients that are statistically significantly different from zero at the five-percent significance level are denoted in bold.

Abnormal Returns are calculated as daily return less return predicted by the estimated regression model.

R_{it} Daily returns on the ADR of Rio Tinto, PLC.

R_M Daily returns on the S&P 500 Index.

R_{IND} Daily returns on the Industry Index. Industry index is noted in the column header.

Exhibit 6**Abnormal Change in Rio Tinto Market Capitalization on April 8, 2011 Per Dr. Metz's Analysis**

[1] Rio Tinto PLC Shares Outstanding	1,512.922
[2] Rio Tinto LTD Shares Outstanding	435.759
[3] = [1] + [2] Total Shares Outstanding	<hr/> 1,948.68
[4] April 7, 2011 Rio Tinto ADR Price	\$72.42
[5] = [3] x [4] April 7, 2011 Market Capitalization	\$141,123.48
[6] Implied April 8, 2011 Abnormal Return Per Dr. Metz	3.0%
[7] = [5] x [6] Abnormal Change in Market Capitalization Attributable to Rio Tinto Gaining Control Per Dr. Metz	\$4,233.70

Notes and Sources:

Currency: U.S. dollar.

All shares outstanding and market capitalization values in millions.

[1], [2], [4] Number of Rio Tinto PLC and LTD shares outstanding and Rio Tinto ADR stock price from Bloomberg.

[6] Implied April 7, 2011 Abnormal Return per Dr. Metz. *See* Metz Report, p. 54.

Exhibit 7**Value to Rio Tinto of Control of Riversdale on April 8, 2011 as Implied by Dr. Metz's Analysis**

Abnormal Increase in Rio Tinto's Value on April 8, 2011 per Dr. Metz (US\$ millions)	Assumed Probability of Rio Tinto Gaining Control on April 7, 2011	Total Value of Control as Implied by Dr. Metz's Analysis (US\$ millions)	Portion of Rio Tinto's Value on April 7, 2011 Attributable to the Value of its Potential Acquisition of Control as Implied by Dr. Metz's Analysis	
			(US\$ millions)	(% of Market Cap)
[A]	[B]	[C] = [A] / (100% - [B])	[D] = [C] - [A]	[E] = [D] / \$141.1 billion
\$4,233.7	0%	\$4,233.7	\$0.0	0.0%
\$4,233.7	10%	\$4,704.1	\$470.4	0.3%
\$4,233.7	20%	\$5,292.1	\$1,058.4	0.8%
\$4,233.7	30%	\$6,048.1	\$1,814.4	1.3%
\$4,233.7	40%	\$7,056.2	\$2,822.5	2.0%
\$4,233.7	50%	\$8,467.4	\$4,233.7	3.0%
\$4,233.7	60%	\$10,584.3	\$6,350.6	4.5%
\$4,233.7	70%	\$14,112.3	\$9,878.6	7.0%
\$4,233.7	80%	\$21,168.5	\$16,934.8	12.0%
\$4,233.7	90%	\$42,337.0	\$38,103.3	27.0%

Notes and Sources:

[A] Abnormal change in Rio Tinto's U.S. dollar market capitalization attributable to Rio Tinto gaining control of Riversdale per Dr. Metz. *See Exhibit 6.*

[C] The Total Value of Control as Implied by Dr. Metz's Analysis is equal to the Abnormal Increase in Rio Tinto's Value on April 8, 2011 per Dr. Metz (\$4,233.7 million) divided by the increase in the probability that Rio Tinto would gain control of Riversdale from April 7, 2011 (the Assumed Probability of Rio Tinto Gaining Control on April 7, 2011) to April 8, 2011 (100%).

[E] \$141.1 billion is Rio Tinto's U.S. dollar market capitalization on April 7, 2011. *See Exhibit 6.*

Exhibit 8
Abnormal Returns Following Rio Tinto's Disclosures on January 17, 2013

	Regression Model			
	Metz Model SPMM INDEX	Modified Metz Model SPMM INDEX	Alternative Industry Indices	
	[A]	[B]	HSBC Global Mining Index [C]	Equal Weighted Peer Index [D]
R_M	0.340 (1.67)	0.357 (1.73)	0.654 (4.00)	0.385 (2.10)
R_{IND}	0.758 (8.46)	0.748 (8.29)	1.000 (9.77)	0.961 (9.64)
Constant	0.000 (0.45)	0.001 (0.65)	0.000 (0.18)	0.001 (0.58)
Observations	117	120	120	120
Adj. R^2	0.639	0.629	0.676	0.672
Abnormal Returns				
January 17, 2013	-1.22%	-1.23%	-0.60%	-0.33%
t -statistic	(-1.06)	(-1.07)	(-0.56)	(-0.31)

Notes and Sources:

Model: $R_{it} = \alpha + \beta_1 R_{Mt} + \beta_2 R_{INDt} + \varepsilon_{it}$

The regression model in column [A] was estimated using percent returns. I estimated regressions in columns [B] – [D] using logged returns.

Estimation period: 120 trading days prior to January 17, 2013 (July 25, 2012 through January 16, 2013).

The estimation period in column [A] excludes days on which earnings announcements and quarterly operations reviews were released. Columns [B] – [D] include all trading days within the estimation period.

Securities data are from CRSP, Bloomberg, Capital IQ, and Thomson Reuters.

t -statistics are in parentheses. t -statistics for estimated coefficients that are statistically significantly different from zero at the five-percent significance level are denoted in bold.

Abnormal Returns are calculated as daily return less return predicted by the estimated regression model.

R_{it} Daily returns on the ADR of Rio Tinto, PLC.

R_M Daily returns on the S&P 500 Index.

R_{IND} Daily returns on the Industry Index. Industry index is noted in the column header.

Exhibit 9
Summary of Equity Analysts' Changes to Their Valuations of RTCM and Target Prices for Rio Tinto ("RT") Following the RTCM Impairment Disclosure
January 17, 2013 through January 31, 2013

	Contributor	Pre-Impairment RTCM Valuation	Post-Impairment RTCM Valuation	RTCM Valuation Change	Pre-Impairment RT Target Price	Post-Impairment RT Target Price	RT Target Price Change	Reason for RT Target Price Change	Key Quotes
[1]	BMO CAPITAL MARKETS	US\$5.3 B	TBD	-	£45.00	£45.00	0		"Additionally, the company has reported a US\$3B write off relating to infrastructure and coal recovery challenges at Rio Tinto Coal Mozambique, equivalent to US\$1.60/share. BMO currently values the Mozambique coal assets at US\$5.3B, which may well need to be reexamined. "
[2]	MERRILL LYNCH	US\$5.6 B	TBD	-	£39.00	£39.00	0		"[C]oal [write-down] a negative surprise " "[T]he write-down on Riversdale (coking coal) is more of a disappointment in our view... We are left wondering whether we need to factor in project delays and capex over-runs and expect more details with FY results. To the extent this is the case, this would end up being a downgrade to our NPV . As a sensitivity, a US\$1 bn capex overrun would negatively affect our DCF/sh by roughly GBp33p/AS0.50. "
[3]	CANACCORD GENUITY	N/A	N/A	0	£38.50	£42.00	+	Commodity Price Forecast Change	"Our revised 4200p price target for RIO offers 19% potential upside from current levels." "The large write-downs in the group in our eyes have had a limited impact on the ongoing valuation of the company as the charges are non cash." "We have increased our near-term iron ore and copper forecasts and also increased our long-run copper price level to US\$6,280/t (US\$2.85/lb). This drives an upward bias to both estimates and price targets." "Our estimates change reflecting the amended metal price and exchange rate forecasts we are now using as well as updating production estimates for recent production releases and volume commentary (BLT, RIO, WTI and CAML). We have reflected the recently announced US\$14B write-downs at Rio Tinto."
[4]	CGS-CIMB / CIMB RESEARCH	N/A	N/A	-	A\$84.05	A\$82.36	-	RTCM Impairment	"We have revised our earnings forecasts and reduced our NPV-based target price to \$82.36ps after incorporating the expected writedown, and scaling back the ramp-up of production at Mozambique Coal." "After revising our ramp-up profile for Mozambique Coal, our NPV and earnings forecasts have largely decreased over the forecast period." "The magnitude of the writedowns was the major surprise here (we were expecting single-digit billions). However, the writedowns are non-cash, non-recurring and reflective of acquisitions made in 2007 (Alcan) and 2011 (Riversdale)."
[5]	CITIGROUP INC	N/A	N/A	-	US\$52.82	US\$64.03	+	Impairment and Management Change	"[U]pgrade to Buy" "We believe the market will perceive today's write-downs and management changes negatively in the short term, but that these will be positive for the stock and the sector longer term." "We rate Rio Tinto Buy as we believe the recent management changes along with substantial impairments should result in long-term positives." "Due to today's impairments, we have removed the large discount to NPV we previously applied for poor capital allocation (we now apply a 15% discount vs. 40% previously). As a result of this, and a shift in our FX assumptions to reflect the current spot rate, we have increased our target price to \$64.03 (previously \$52.82)." "Though Rio had indicated the potential for write-downs in aluminium during its investor day in Sydney in November 2012, the size of write-downs will have taken the market by surprise, in our view."

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January 17, 2013 through January 31, 2013

	Contributor	Pre-Impairment RTCM Valuation	Post-Impairment RTCM Valuation	RTCM Valuation Change	Pre-Impairment RT Target Price	Post-Impairment RT Target Price	RT Target Price Change	Reason for RT Target Price Change	Key Quotes
[6]	CREDIT SUISSE	US\$1.5 B	US\$0.7 B	-	A\$75.00	A\$75.00	0		<p>"Total impairment expected to approximate \$14bn (post tax) of which \$3bn relate to Mozambique (BV \$3.4bn, CS value \$1.5bn) and aluminium (BV \$27bn, CS approx. \$12bn). Given our valuations for these assets, write-downs would have been expected sometime in years ahead but the year-end audit process seems to have brought forward. We see the Mozambique coal write-down as the lesser anticipated of the two."</p> <p>"In our model, we carried a valuation of \$1.5bn for Mozambique coal but now reduce this to \$700m as we no longer assume expansions beyond 8mtpa (100%, RIO owns 65%)."</p> <p>"Incorporating the new asset values increases FY13-14 EPS by 2.5% as D&A from the aluminium business come down, slightly offset by lower expected tonnage out of Mozambique."</p> <p>"Most valuation metrics are improved but price/book does increase for Rio FY13 PB for Ltd increases from 2x to 2.5x. Write-downs can't create value! Our DCF valuation is only marginally impacted as we halve our valuation of Riversdale to \$700m."</p>
[7]	DEUTSCHE BANK	US\$1.3 B	US\$0.37 B	-	£44.50	£44.00	-	RTCM Impairment	<p>"Our revised GBp 4400/sh PT (from GBp 4450/sh) is set in line with our NPV (9% WACC). We value Rio using discounted cashflow analysis of each of its assets."</p> <p>"The US\$3b Coal Mozambique write-down will bring this valuation to around US\$0.4b, under our previous US\$1.3b valuation. We have extended the time line on this project based on the comments today (now US\$0.37b)."</p>
[8]	GOLDMAN SACHS	N/A	N/A	0	£38.00	£37.50	-	Commodity Price Forecast Change	<p>"The write-downs and management changes do not impact our estimates or valuation of Rio."</p> <p>"Valuation driven by the iron ore price, not writedowns and CEO"</p> <p>"Our 12-month price target falls to 3,750p from 3,800p as a result of our minor earnings revision following the 4Q12 production report."</p>
[9]	HSBC	US\$0.0 B	US\$0.0 B	0	£36.20	£36.20	0		<p>"The write-downs... have no impact on the future earnings stream on which we value the company."</p> <p>"The revision to book values is not material to our valuation, as we value on future cash flows (as does consensus)."</p> <p>"[T]his change looks like bringing the book value closer to our own valuation, and is unlikely, in our view, to lead to major changes to consensus estimates."</p> <p>"We have never incorporated Mozambique assets into our earnings estimates, as we have been unsure of the development path."</p>
[10]	INVESTEC BANK PLC (UK)	US\$4.0 B	US\$0.0 B	-	A\$69.00	A\$74.00	+	Commodity Price Forecast Change	<p>"Our share price target is increased from A\$69.00/share to A\$74.00/share, this has been set at 50% NPV and 50% CY'13E earnings, on a PER of 11x."</p> <p>"The NPV of the Company's businesses has been reduced 4% from US\$176b to US\$169bn"</p> <p>"[Earnings revisions] [m]ainly reflect revised commodity price assumptions (see table 3), in particular a slightly higher iron ore price, lower aluminium prices, and lower industrial minerals prices."</p> <p>"We have reduced our value for Mozambique coal from US\$4.0b to zero, and removed completely any growth in volumes above 3mtpa (previously 15mtpa by 2020 and 22mtpa by 2025)."</p>

Exhibit 9
Summary of Equity Analysts' Changes to Their Valuations of RTCM and Target Prices for Rio Tinto ("RT") Following the RTCM Impairment Disclosure
January 17, 2013 through January 31, 2013

	Contributor	Pre-Impairment RTCM Valuation	Post-Impairment RTCM Valuation	RTCM Valuation Change	Pre-Impairment RT Target Price	Post-Impairment RT Target Price	RT Target Price Change	Reason for RT Target Price Change	Key Quotes
[11]	JEFFERIES LLC	N/A	N/A	0	£43.00	£43.00	0		"While the impairment charges are negative following some disappointing past acquisitions, we believe the Rio investment case remains firmly intact and recommend investors accumulate shares on any near-term weakness." "While the market's initial reaction to this news has been negative (coinciding with a recently declining iron ore price), we believe the investment case for Rio remains firmly unchanged and intact."
[12]	JP MORGAN	US\$0.619 B	US\$0.619 B	0	£44.00	£44.00	0		"We confirm this morning's announced \$14bn writedown has no impact on our NPV. We reiterate our 4,400p PT and make no change to our estimates." "We already value the asset at \$619m, therefore we expect negligible impact to our valuation. But we acknowledge a near full writedown within 18 months will remind shareholders of RIO's recent chequered M&A track record."
[13]	LIBERUM	N/A	N/A	0	N/A	N/A	0		"Big write downs and management changes, RIO moving ahead of market expectations on both counts" "Our initial thoughts are the market already knew these acquisitions were overpriced and the write-downs are not incommensurate with ours and the market's valuation of these assets." "We remain buyers of Rio which has derated sharply on higher iron ore prices."
[14]	MACQUARIE RESEARCH	US\$3.1 B	US\$0.2 B	-	A\$75.00	A\$75.00	0		"Maintain Neutral & A\$75/sh target." "As a result of these write-downs, we expect medium term earnings to rise by ~3% (from 2013 to 2016)." "Mozambique an early admission of over-paying: RIO is also writing down its Mozambique coal assets by US\$3bn which reduces the carrying value of RTCM close to zero (this compares to our previous valuation of ~US\$1.1bn and the Riversdale acquisition price of US\$3.7bn paid as recently as 2011). " "[W]e have capped volumes at ~2mtpa for the foreseeable future. While this lowers our NAV by ~A\$2/sh , we continue to see longer term strategic value in RIO's significant foothold in what remains likely to ultimately become a global scale coking coal basin."
[15]	MORNINGSTAR INC.	N/A	N/A	0	A\$95.00	A\$95.00	0		"In our opinion the writedown is an accounting entry only and has no impact on our AUD 95 fair value estimate, nor our earnings forecasts."
[16]	NOMURA INTERNATIONAL (HONG KONG) LTD.	N/A	N/A	0	A\$70.00	A\$70.00	0		"Overall the announcements are clearly negative given the scale of the write-downs, add to this the fact that the iron ore price is now off its highs as restocking in China nears its end, and we would expect RIO to trade weakly in the short term. However, given negligible change to our cash flow outlook, we would recommend buying any meaningful dip, and reiterate our calculation of an average IRR of 15% across its project portfolio." "The majority write down of the Riversdale coal assets to ~US\$0.4bn appears to relate to both infrastructure and resource constraints limiting volume upside compared to long term targets at the time of the acquisition of 25Mtpa (versus Nomura forecasts of ~1.6mtpa). "

Exhibit 9
Summary of Equity Analysts' Changes to Their Valuations of RTCM and Target Prices for Rio Tinto ("RT") Following the RTCM Impairment Disclosure
January 17, 2013 through January 31, 2013

	Contributor	Pre-Impairment RTCM Valuation	Post-Impairment RTCM Valuation	RTCM Valuation Change	Pre-Impairment RT Target Price	Post-Impairment RT Target Price	RT Target Price Change	Reason for RT Target Price Change	Key Quotes
[17]	RBC CAPITAL MARKETS	N/A	N/A	0	£38.00	£38.00	0		<p>"Writedown expected by market: We had expected an additional writedown of US\$5-10bn, consisting mainly of the additional goodwill of US\$5.8bn associated with the aluminum division after the 2011 writedown of the RTA and other aluminum assets. The additional ~US\$5bn of asset value writedown should not be too much of a surprise considering 1) the weak performance of the aluminum market in 2012; and 2) that most of the miners are currently taking writedowns of larger asset purchases made over the past 5 years."</p> <p>"A change of CEO comes slightly earlier than we had expected but changes at Rio, Anglo and BHP are largely expected by the market in the coming year, with Anglo having already replaced Cynthia Carroll with Mark Cutifani."</p> <p>"We retain our Outperform rating on RIO but given the short-term downward momentum on iron ore pricing, we would wait to buy the stock at around £32/sh (ideally with iron ore sub-\$130/t)."</p>
[18]	SOCIÉTÉ GÉNÉRALE	~US\$1.85 B	~US\$0.7 B	-	£36.60	£39.00	+	Commodity Price Forecast Change	<p>"We are increasing our 2013-14 earnings estimates for Rio Tinto by c.30% on average to incorporate our team's higher iron ore price forecasts (as set out in our 10 January report on ArcelorMittal)."</p> <p>"After it reported infrastructure issues in Mozambique early last year, we started valuing these assets at 50% of the acquisition cost. Therefore, a \$3bn write-off is \$1bn worse than our current model."</p> <p>"Unforeseen circumstances (infrastructure issues, collapse of coking coal price) may have affected the Mozambique deal adversely but that does not change the fact that Rio has never released in-depth data on the projects; lack of detail has prevented us from fully modelling the deal and coming up with more than a 'make do' NPV estimate for the projects."</p>
[19]	UBS INVESTMENT BANK	N/A	N/A	0	A\$86.00	A\$86.00	0		<p>"Valuation: reiterate Buy, attractive value, cost position, and growth profile"</p> <p>"Mozambique Coal written down by US\$3bn, the majority of the US\$4.2bn acquisition cost... While the size of impairment/mgmt change is a surprise, in our opinion, these are legacy issues which do not impact our NPV or EPS."</p>
[20]	ZACKS INVESTMENT RESEARCH	N/A	N/A	-	A\$52.00	A\$51.00	-	Impairments	<p>"We are downgrading Rio Tinto from a Neutral to Underperform recommendation based on the recent writedown of assets to the tune of \$14 billion."</p> <p>"Our Underperform recommendation on the ADR indicates that the company would underperform the broader market. Our \$51.00 target price, 8.4x 2013 EPADR, reflects this view."</p> <p>"The recent write down of assets worth \$14 billion leaves the company in a very bad shape. The write-down included roughly \$3 billion for Rio Tinto Coal Mozambique (RTCM)."</p>
				Number with Decrease (-)	10		4		
				Number with No Change (0)	10		12		
				Number with Increase (+)	0		4		

Notes and Sources:

The analysts' reports summarized in this exhibit include reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group and were published between January 17, 2013 and January 31, 2013. They were compiled according to the process described in detail in **Appendix C.8** with the added criterion that the reports contain discussion of the RTCM Impairment Disclosure. Following this process, I identified 23 analysts' reports from 20 contributors that met all of the criteria required for this exhibit.

[a] I code Valuation Changes and Target Price Changes as increase (+), decrease (-), or no change (0).

Exhibit 10
Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures on January 17, 2013
January 17, 2013 through January 31, 2013

	Date	Contributor	Headline	Analyst Reactions ^a		
				Management Change	RTCM Impairment	Alcan Impairment
[1]	1/17/2013	BMO CAPITAL MARKETS	Write Off of US\$14B; CEO Tom Albanese Steps Down	0	-	0
[2]	1/17/2013	MERRILL LYNCH	\$14 bn write-downs, CEO change. Not great...	0	-	0
[3]	1/17/2013	CITIGROUP INC	Upgrade to Buy on Management Changes and Impairments	+	-	-
[4]	1/17/2013	CREDIT SUISSE	Handing over to a steady set of hands, write-downs inline with valuation	0	-	0
[5]	1/17/2013	DEUTSCHE BANK	Capital allocation held to account	+	-	0
[6]	1/17/2013	GOLDMAN SACHS	Valuation driven by the iron ore price, not writedowns and CEO	0	0	0
[7]	1/17/2013	HSBC	USD14bn in write-downs and a new CEO	0	0	0
[8]	1/17/2013	JEFFERIES LLC	Changing of the Guard	0	0	0
[9]	1/17/2013	JP MORGAN	CEO steps down, but \$14bn of writedowns are less of a surprise - ALERT	+	0	0
[10]	1/17/2013	JP MORGAN	Alcan overhang gone with CEO departure & \$14bn impairment charge	+	0	0
[11]	1/17/2013	LIBERUM	Big write downs and management changes, RIO moving ahead of market expectations on both counts	+	0	0
[12]	1/17/2013	MORNINGSTAR INC.	Iron ore is a strength, aluminum a sleeper for Rio Tinto.	+	N/A	0
[13]	1/17/2013	NOMURA INTERNATIONAL	Enter Sam Walsh	0	0	0
[14]	1/17/2013	RBC CAPITAL MARKETS	Change of Guard	0	0	0

Exhibit 10
Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures on January 17, 2013
January 17, 2013 through January 31, 2013

	Date	Contributor	Headline	Analyst Reactions ^a		
				Management Change	RTCM Impairment	Alcan Impairment
[15]	1/17/2013	SOCIÉTÉ GÉNÉRALE	Time to boost exposure to Rio Tinto stock	+	-	0
[16]	1/17/2013	UBS INVESTMENT BANK	Key Call: Rio Tinto Limited CEO change. One impairment too many	0	0	0
[17]	1/18/2013	CGS-CIMB / CIMB RESEARCH	Write this down	+	-	0
[18]	1/18/2013	CREDIT SUISSE	Increasing accountability & improved optics	0	-	0
[19]	1/18/2013	INVESTEC BANK PLC (UK)	New CEO, same strategy, but catalyst for further changes	+	-	-
[20]	1/18/2013	MACQUARIE RESEARCH	Acquisition Accountability	0	-	0
[21]	1/18/2013	SOCIÉTÉ GÉNÉRALE	Why new CEO is likely to be a positive for Rio Tinto shares	+	-	N/A
[22]	1/19/2013	MORNINGSTAR INC.	Rio's Great Cleanse	+	0	0
[23]	1/22/2013	ZACKS INVESTMENT RESEARCH	Rio Tinto plc (RIO) Zacks Company Report	N/A	-	-
[24]	1/24/2013	CITIGROUP INC	Absolute Call - Adding RIO.L	+	N/A	N/A
[25]	1/25/2013	MORNINGSTAR INC.	Trimming Our 2012 Profit	N/A	N/A	N/A
[26]	1/29/2013	CANACCORD GENUITY	Rio remains our top pick on higher prices	0	0	0

Exhibit 10
Summary of Equity Analysts' Reactions to Rio Tinto's Disclosures on January 17, 2013
January 17, 2013 through January 31, 2013

	Date	Contributor	Headline	Analyst Reactions ^a		
				Management Change	RTCM Impairment	Alcan Impairment
[27]	1/30/2013	MERRILL LYNCH	Oyu Tolgoi shutdown threat = Hardball with 7% of NPV	N/A	N/A	N/A
[28]	1/31/2013	MORGAN STANLEY	Could change in capital allocation trigger re-rating?	0	N/A	N/A
[29]	1/31/2013	RBC CAPITAL MARKETS	Turquoise Hill announces first production from Oyu Tolgoi	N/A	N/A	N/A
[30]	1/31/2013	SOCIÉTÉ GÉNÉRALE	Corporate news Why we are not worried about Oyu Tolgoi	N/A	N/A	N/A

Counts by Report			
Total Positive:	12	0	0
Total Neutral:	13	11	20
Total Negative:	0	12	3
Total Not Discussed:	5	7	7

Counts by Contributor ^b			
Total Positive:	8	0	0
Total Neutral:	12	10	17
Total Negative:	0	10	3
Total Not Discussed:	1	1	1

Notes and Sources:

This exhibit summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group and were published between January 17, 2013 and January 31, 2013. *See Appendix C.8* for the details on how I compiled the reports summarized in this exhibit.

- [a] I code analysts' reactions to the January 17, 2013 Disclosures as positive (+), negative (-), or neutral (0). N/A indicates a topic that was not discussed in the analysts' report.
- [b] In cases where I reviewed multiple reports from the same contributor, I selected the Analyst Reaction from the report in which the topic of interest was discussed (+, -, or 0) for that contributor if one was available.

Exhibit 11
Rio Tinto Bond Event Study: Summary of Abnormal Returns Results
January 17, 2013

						Benchmark:			
						BAML A- Rated Bond Index		BAML BBB-Rated Bond Index	
						Abnormal		Abnormal	
						Return (bps)	<i>t</i> -statistic	Return (bps)	<i>t</i> -statistic
Bond No.	ISIN	Issue Date	Term (years)	Total Principal (millions)					
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	
[1]	9	'AE62	25-Jun-08	5	\$2,500	53.2	1.1	47.8	1.0
[2]	10	'AF38	14-Apr-09	5	\$2,000	28.2	0.4	22.7	0.3
[3]	11	'AH93	14-Apr-09	10	\$1,500	-3.3	-0.1	-8.8	-0.1
[4]	13	'AK23	28-Oct-10	10	\$1,000	19.8	0.2	14.3	0.1
[5]	18	'AQ92	14-Sep-11	10	\$1,150	-10.1	-0.1	-15.6	-0.2
[6]	23	'AE64	16-Aug-12	5	\$1,250	-14.9	-0.3	-20.4	-0.4
[7]	24	'AF30	16-Aug-12	10	\$1,000	-47.9	-0.7	-53.4	-0.8
[8]	25	'AG13	16-Aug-12	30	\$750	-258.8	-1.5	-264.3	-1.5
[9]	Firm-Level Bond Portfolio					-13.5	-0.4	-19.0	-0.6

Notes and Sources:

Currency: U.S. dollar. All bonds have a \$1,000 Face Value and semi-annual coupon payment frequency.

The exhibit shows results for Rio Tinto's 8 most actively traded bonds. These bonds have traded in at least 85 percent of potential trading days in the six-month period prior to January 17, 2013, or from the issue date if the issue date is less than six months prior to January 17, 2013.

I calculate the Abnormal Return by subtracting the daily return on the benchmark Bond Index from the daily bond return.

Abnormal Returns are shown in basis points (bps). A basis point equals one-hundredth of one percent.

[A]-[E] From **Exhibit 2**

[F], [H] Daily percentage change in Bond price on January 17 less daily percentage change in benchmark index on January 17.

[1]-[8][G], [I] The standard deviation of each bond's Abnormal Returns is estimated over the 126 trading days prior to January 16, 2013 or from the issue date, if the issue date is less than 126 days prior. A *t*-statistic with an absolute value greater than 1.96 denotes statistical significance at the 95 percent confidence level.

[9][F], [H] Firm-level Bond Portfolio is a value-weighted portfolio of all Rio Tinto bonds outstanding as of January 17, 2013. On each trading day, I calculated the abnormal return for each bond (that had data available) by subtracting the daily return on the Benchmark portfolio from the daily bond return. The weighted average of the individual bond abnormal returns on each day is the firm-level bond abnormal return for that day.

[9][G], [I] The standard deviation of the weighted portfolio's Abnormal Returns is estimated over the 126 trading days prior to January 16, 2013. I calculate the standard deviation by using each days' weighted sum of abnormal returns over the 126 trading days.

Exhibit 12
Abnormal Returns Following Rio Tinto's HY 2012 Earnings Release on August 8, 2012

	Regression Model			
	Metz Model SPMM INDEX	Modified Metz Model SPMM INDEX	Alternative Industry Indices	
	[A]	[B]	HSBC Global Mining Index [C]	Equal Weighted Peer Index [D]
R_M	1.141 (5.72)	1.100 (5.64)	1.027 (6.34)	0.691 (3.82)
R_{IND}	0.608 (6.53)	0.621 (6.76)	0.918 (9.29)	0.984 (9.85)
Constant	0.000 (-0.32)	-0.001 (-0.50)	0.000 (0.14)	0.000 (0.16)
Observations	118	120	120	120
Adj. R^2	0.737	0.736	0.788	0.799
Abnormal Returns				
August 8, 2012	2.83%	2.86%	2.25%	1.61%
t - statistic	(2.26)	(2.26)	(1.99)	(1.46)

Notes and Sources:

Model: $R_{it} = \alpha + \beta_1 R_{Mt} + \beta_2 R_{INDt} + \varepsilon_{it}$

The regression model in column [A] was estimated using percent returns. I estimated regressions in columns [B] – [D] using logged returns.

Estimation period: 120 trading days prior to August 8, 2012 (February 16, 2012 through August 7, 2012).

The estimation period in column [A] excludes days on which earnings announcements and quarterly operations reviews were released. Columns [B] – [D] include all trading days within the estimation period.

Securities data are from CRSP, Bloomberg, Capital IQ, and Thomson Reuters.

t -statistics are in parentheses. t -statistics for estimated coefficients that are statistically significantly different from zero at the five-percent significance level are denoted in bold.

Abnormal Returns are calculated as daily return less return predicted by the estimated regression model.

R_{it} Daily returns on the ADR of Rio Tinto, PLC.

R_M Daily returns on the S&P 500 Index.

R_{IND} Daily returns on the Industry Index. Industry index is noted in the column header.

Exhibit 13
Summary of Equity Analysts' Reactions to Rio Tinto's HY 2012 Earnings Release
August 8, 2012 through August 22, 2012

	Date	Contributor	Does the report discuss the HY 2012 earning results?	Were actual underlying earnings above contributor forecast?
[1]	8/8/2012	BMO CAPITAL MARKETS	Yes	Yes
[2]	8/8/2012	CANACCORD GENUITY	Yes	Yes
[3]	8/8/2012	CITIGROUP INC	Yes	Yes
[4]	8/8/2012	COWEN SECURITIES	Yes	Yes
[5]	8/8/2012	DEUTSCHE BANK	Yes	Yes
[6]	8/8/2012	JEFFERIES LLC	Yes	Yes
[7]	8/8/2012	JP MORGAN	Yes	Yes
[8]	8/8/2012	LIBERUM	Yes	Yes
[9]	8/8/2012	MERRILL LYNCH	Yes	Yes
[10]	8/8/2012	RBC CAPITAL MARKETS	Yes	No
[11]	8/8/2012	RBS STRATEGY	Yes	N/A
[12]	8/8/2012	UBS INVESTMENT BANK	Yes	Yes
[13]	8/9/2012	BAILLIEU HOLST LTD	Yes	N/A
[14]	8/9/2012	CREDIT SUISSE	Yes	Yes
[15]	8/9/2012	MACQUARIE RESEARCH	Yes	Yes
[16]	8/9/2012	MORGAN STANLEY	Yes	No
[17]	8/9/2012	SHAW AND PARTNERS LIMITED	Yes	N/A
[18]	8/9/2012	SOCIÉTÉ GÉNÉRALE	Yes	N/A
[19]	8/9/2012	CFRA EQUITY RESEARCH	Yes	N/A
[20]	8/13/2012	CANACCORD GENUITY	Yes	N/A
[21]	8/13/2012	NATIXIS S.A.	Yes	N/A
[22]	8/15/2012	GLOBAL MARKETS RESEARCH	Yes	N/A
[23]	8/15/2012	SOCIÉTÉ GÉNÉRALE	Yes	N/A
[24]	8/19/2012	MORNINGSTAR INC.	Yes	No
[25]	8/20/2012	RBC CAPITAL MARKETS	Yes	N/A
Total Yes (By Analyst's Report):			25	12
Total Yes (By Contributor)^a:			22	12

Notes and Sources:

This exhibit summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group, were published between August 8, 2012 and August 22, 2012, and discuss the HY 2012 Earnings Release. See **Appendix C.11** for the details on how I compiled the reports summarized in this exhibit. Note that I did not identify any reports published on August 21, 2012 or August 22, 2012 that discuss the HY 2012 Earnings Release.

[a] Total Yes (By Contributor) is calculated as the sum of unique contributors with at least one Yes from their corresponding analyst report(s).

Exhibit 14

Summary of Equity Analysts' Reactions to the RTCM-Related Disclosures Included in Rio Tinto's HY 2012 Earnings Release

August 8, 2012 through August 22, 2012

	Date	Contributor	Does the report mention Riversdale/RTCM/ Mozambique?	Does the report mention the August 2012 Albanese Statements?	Does the report mention first production at Benga?	Does the report mention that development is slower than initially planned?	Does the report discuss infrastructure options in Mozambique?
[1]	8/8/2012	BMO CAPITAL MARKETS	Yes	No	Yes	No	No
[2]	8/8/2012	CANACCORD GENUITY	No	No	No	No	No
[3]	8/8/2012	CITIGROUP INC	No	No	No	No	No
[4]	8/8/2012	COWEN SECURITIES	No	No	No	No	No
[5]	8/8/2012	DEUTSCHE BANK	Yes	Yes	Yes	Yes	Yes
[6]	8/8/2012	JEFFERIES LLC	Yes	No	No	No	No
[7]	8/8/2012	JP MORGAN	No	No	No	No	No
[8]	8/8/2012	LIBERUM	No	No	No	No	No
[9]	8/8/2012	MERRILL LYNCH	Yes	Yes	Yes	Yes	Yes
[10]	8/8/2012	RBC CAPITAL MARKETS	No	No	No	No	No
[11]	8/8/2012	RBS STRATEGY	No	No	No	No	No
[12]	8/8/2012	UBS INVESTMENT BANK	No	No	No	No	No
[13]	8/9/2012	BAILLIEU HOLST LTD	Yes	No	Yes	Yes	No
[14]	8/9/2012	CREDIT SUISSE	Yes	No	Yes	Yes	No
[15]	8/9/2012	MACQUARIE RESEARCH	Yes	No	Yes	No	No
[16]	8/9/2012	MORGAN STANLEY	Yes	Yes	Yes	No	No
[17]	8/9/2012	SHAW AND PARTNERS LIMITED	No	No	No	No	No
[18]	8/9/2012	SOCIÉTÉ GÉNÉRALE	Yes	No	No	Yes	No
[19]	8/9/2012	CFRA EQUITY RESEARCH	No	No	No	No	No
[20]	8/13/2012	CANACCORD GENUITY	Yes	No	No	No	No
[21]	8/13/2012	NATIXIS S.A.	No	No	No	No	No
[22]	8/15/2012	GLOBAL MARKETS RESEARCH	No	No	No	No	No
[23]	8/15/2012	SOCIÉTÉ GÉNÉRALE	No	No	No	No	No
[24]	8/19/2012	MORNINGSTAR INC.	No	No	No	No	No
[25]	8/20/2012	RBC CAPITAL MARKETS	No	No	No	No	No
Total Yes (By Analyst's Report):			10	3	7	5	2
Total Yes (By Contributor)^a:			10	3	7	5	2

Notes and Sources:

This exhibit summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group, were published between August 8, 2012 and August 22, 2012, and discuss the HY 2012 Earnings Release. See **Appendix C.11** for the details on how I compiled the reports summarized in this exhibit. Note that I did not identify any reports published on August 21, 2012 or August 22, 2012 that discuss the HY 2012 Earnings Release.

[a] Total Yes (By Contributor) is calculated as the sum of unique contributors with at least one Yes from their corresponding analyst report(s).

Exhibit 15
Abnormal Returns Following Rio Tinto's Investors Seminar on November 29, 2012

	Regression Model			
	Metz Model	Modified Metz Model	Alternative Industry Indices	
	SPMM INDEX	SPMM INDEX	HSBC Global Mining Index	Equal Weighted Peer Index
	[A]	[B]	[C]	[D]
R_M	0.558 (2.51)	0.557 (2.50)	0.843 (5.23)	0.338 (1.82)
R_{IND}	0.695 (7.27)	0.693 (7.24)	0.900 (9.54)	1.011 (10.41)
Constant	0.000 (-0.15)	0.000 (0.01)	0.000 (-0.15)	0.000 (0.30)
Observations	117	120	120	120
Adj. R^2	0.666	0.657	0.721	0.742
Abnormal Returns				
November 29, 2012	3.62%	3.58%	2.64%	3.16%
t -statistic	(2.92)	(2.81)	(2.29)	(2.86)

Notes and Sources:

Model: $R_{it} = \alpha + \beta_1 R_{Mt} + \beta_2 R_{INDt} + \varepsilon_{it}$

The regression model in column [A] was estimated using percent returns. I estimated regressions in columns [B] – [D] using logged returns.

Estimation period: 120 trading days prior to November 29, 2012 (June 7, 2012 through November 28, 2012).

The estimation period in column [A] excludes days on which earnings announcements and quarterly operations reviews were released. Columns [B] – [D] include all trading days within the estimation period.

Securities data are from CRSP, Bloomberg, Capital IQ, and Thomson Reuters.

t -statistics are in parentheses. t -statistics for estimated coefficients that are statistically significantly different from zero at the five-percent significance level are denoted in bold.

Abnormal Returns are calculated as daily return less return predicted by the estimated regression model.

R_{it} Daily returns on the ADR of Rio Tinto, PLC.

R_M Daily returns on the S&P 500 Index.

R_{IND} Daily returns on the Industry Index. Industry index is noted in the column header.

Exhibit 16
Summary of Equity Analysts' Reactions to Rio Tinto's November 2012 Investor Seminar
November 29, 2012 through December 12, 2012

	Date	Contributor	Does the report mention the announcement of the \$5 billion cost cutting initiative?	Does the report discuss the increased emphasis on returning cash to shareholders?	Does the report indicate a positive reaction to the announcements?	Does the report discuss any possibility of a write-down?
[1]	11/29/2012	BMO CAPITAL MARKETS	Yes	No	Yes	No
[2]	11/29/2012	CGS-CIMB/ CIMB RESEARCH	Yes	Yes	Yes	Yes
[3]	11/29/2012	CITIGROUP INC ^a	Yes	No	No - Neutral	No
[4]	11/29/2012	CITIGROUP INC ^b	Yes	Yes	Yes	No
[5]	11/29/2012	DEUTSCHE BANK	Yes	Yes	No - Neutral	No
[6]	11/29/2012	JP MORGAN	Yes	Yes	Yes	No
[7]	11/29/2012	LIBERUM	Yes	No	Yes	No
[8]	11/29/2012	MERRILL LYNCH	Yes	Yes	Yes	Yes
[9]	11/29/2012	MORGAN STANLEY	Yes	Yes	Yes	Yes
[10]	11/29/2012	RBC CAPITAL MARKETS	Yes	Yes	Yes	Yes
[11]	11/29/2012	UBS INVESTMENT BANK	Yes	Yes	Yes	No
[12]	11/30/2012	JEFFERIES LLC	Yes	No	Yes	No
[13]	11/30/2012	LIBERUM	Yes	No	No - Neutral	No
[14]	11/30/2012	MACQUARIE RESEARCH	Yes	Yes	No - Neutral	No
[15]	11/30/2012	SOCIÉTÉ GÉNÉRALE	Yes	No	Yes	No
[16]	11/30/2012	ZACKS INVESTMENT RESEARCH	Yes	No	Yes	No
[17]	12/4/2012	CREDIT SUISSE	Yes	Yes	Yes	Yes
[18]	12/5/2012	MORNINGSTAR INC.	Yes	Yes	No - Neutral	No
[19]	12/7/2012	HSBC	Yes	No	Yes	Yes
[20]	12/10/2012	SOCIÉTÉ GÉNÉRALE	Yes	No	Yes	No
[21]	12/11/2012	CHARLES STANLEY & CO. LTD.	Yes	Yes	Yes	Yes
[22]	12/13/2012 ^c	JP MORGAN	Yes	Yes	Yes	No
Total Yes (By Analyst's Report):			22	13	17	7
Total Yes (By Contributor)^d:			18	12	15	7

Notes and Sources:

This exhibit summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group, were published between November 29, 2012 and December 12, 2012, and discuss the November 2012 Investor Seminar. See **Appendix C.12** for the details on how I compiled the reports summarized in this exhibit.

[a] Report headline: Rio Tinto Ltd Alert: Key Takeaways from Investor Seminar.

[b] Report headline: Rio Tinto PLC Alert: 2 out of 3, a good start.

[c] This report was dated December 12, 2012 in the Capital IQ database; however, the date listed on the report is December 13, 2012.

[d] Total Yes (By Contributor) is calculated as the sum of unique contributors with at least one Yes from their corresponding analyst report(s).

Exhibit 17**Summary of Equity Analysts' Reactions to the RTCM-Related Disclosures Made At Rio Tinto's November 2012 Investor Seminar***November 29, 2012 through December 12, 2012*

	Date	Contributor	Does the report mention Riversdale/RTCM?	Does the report mention the November 2012 Albanese Statement?	Does the report mention the possibility of a Riversdale/RTCM write-down?	Does the report discuss Mozambique infrastructure options?
[1]	11/29/2012	BMO CAPITAL MARKETS	No	No	No	No
[2]	11/29/2012	CGS-CIMB/ CIMB RESEARCH	Yes	No	Yes	No
[3]	11/29/2012	CITIGROUP INC ^a	No	No	No	No
[4]	11/29/2012	CITIGROUP INC ^b	No	No	No	No
[5]	11/29/2012	DEUTSCHE BANK	No	No	No	No
[6]	11/29/2012	JP MORGAN	No	No	No	No
[7]	11/29/2012	LIBERUM	No	No	No	No
[8]	11/29/2012	MERRILL LYNCH	Yes	No	Yes	Yes
[9]	11/29/2012	MORGAN STANLEY	Yes	No	Yes	No
[10]	11/29/2012	RBC CAPITAL MARKETS	Yes	No	Yes	No
[11]	11/29/2012	UBS INVESTMENT BANK	No	No	No	No
[12]	11/30/2012	JEFFERIES LLC	No	No	No	No
[13]	11/30/2012	LIBERUM	No	No	No	No
[14]	11/30/2012	MACQUARIE RESEARCH	No	No	No	No
[15]	11/30/2012	SOCIÉTÉ GÉNÉRALE	No	No	No	No
[16]	11/30/2012	ZACKS INVESTMENT RESEARCH	No	No	No	No
[17]	12/4/2012	CREDIT SUISSE	Yes	No	No	No
[18]	12/5/2012	MORNINGSTAR INC.	No	No	No	No
[19]	12/7/2012	HSBC	Yes	No	No	No
[20]	12/10/2012	SOCIÉTÉ GÉNÉRALE	No	No	No	No
[21]	12/11/2012	CHARLES STANLEY & CO. LTD.	Yes	No	Yes	No
[22]	12/13/2012 ^c	JP MORGAN	Yes	No	No	No
Total Yes (By Analyst's Report):			8	0	5	1
Total Yes (By Contributor)^d:			8	0	5	1

Notes and Sources:

This exhibit summarizes analysts' reports produced in discovery, provided by Rio Tinto, or identified in searches of the Capital IQ and Thomson ONE platforms that relate to Rio Tinto plc, Rio Tinto Limited, or Rio Tinto Group, were published between November 29, 2012 and December 12, 2012, and discuss the November 2012 Investor Seminar. *See*

Appendix C.12 for the details on how I compiled the reports summarized in this exhibit.

[a] Report headline: Rio Tinto Ltd Alert: Key Takeaways from Investor Seminar.

[b] Report headline: Rio Tinto PLC Alert: 2 out of 3, a good start.

[c] This report was dated December 12, 2012 in the Capital IQ database; however, the date listed on the report is December 13, 2012.

[d] Total Yes (By Contributor) is calculated as the sum of unique contributors with at least one Yes from their corresponding analyst report(s).